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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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DECEMBER, 1942

Vol. 95, No. 12

Five Firemen Were Killed When Wall Suddenly Collapsed at Boston Fire

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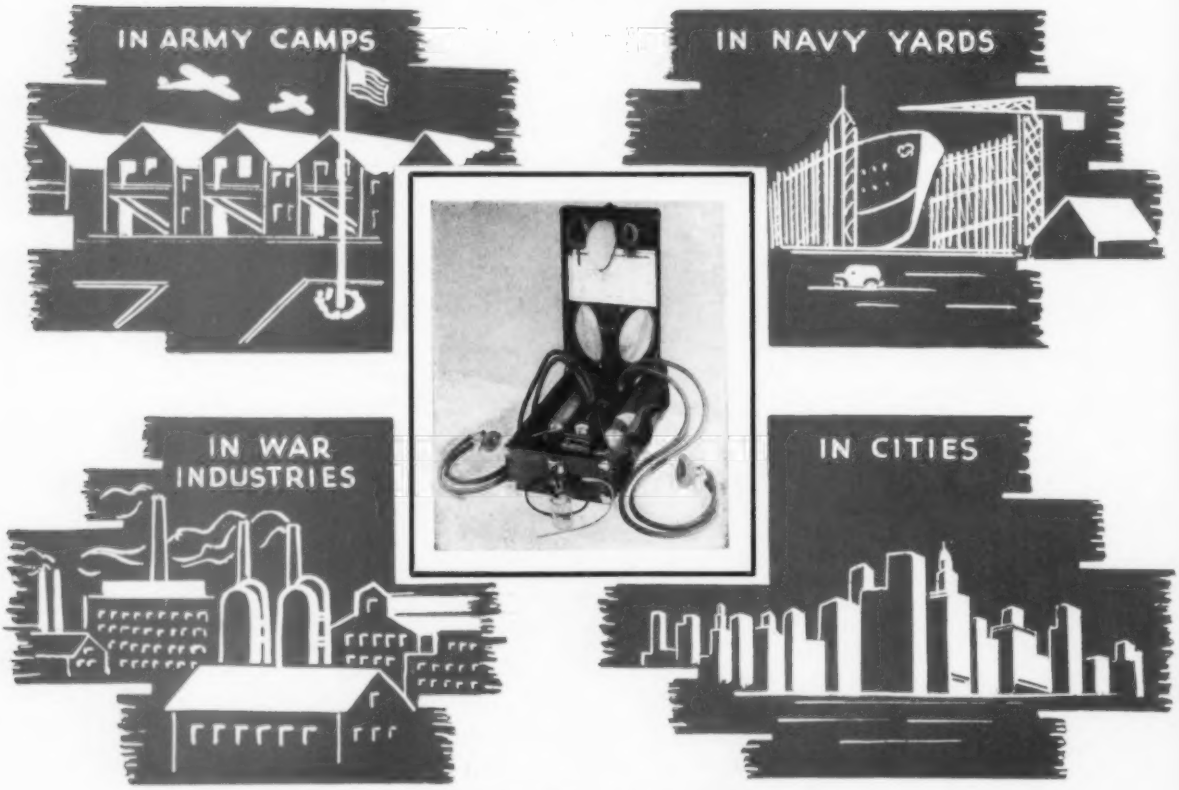

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FIRE ENGINEERING

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FRED SHEPPERD
Editor
H. N. WOLPERT
Assistant Editor

WE cannot approach the Christmas season of 1942 without experiencing decidedly conflicting sentiments.

On the one hand is the highly hopeful outlook in the war picture, so tremendously improved since the Pearl Harbor period — just a year ago; and closely tied in with the war effort is the great contribution of the country's fire service, growing constantly more important, both in fact and in the public mind.

But on the other hand is the remembrance of the recent Boston night club tragedy and the lesson it points, to public officials, to the fire service and to manufacturers — to every last one of us, indeed, who is connected with the fire service.

An occasional battle on the war front must be lost; but the loss of a major battle on the home front is something that it is our united responsibility to prevent. We can and we must make a repetition impossible!

So, with a new sense of our professional responsibilities we send *the Season's Greetings to All!*

The Publishers

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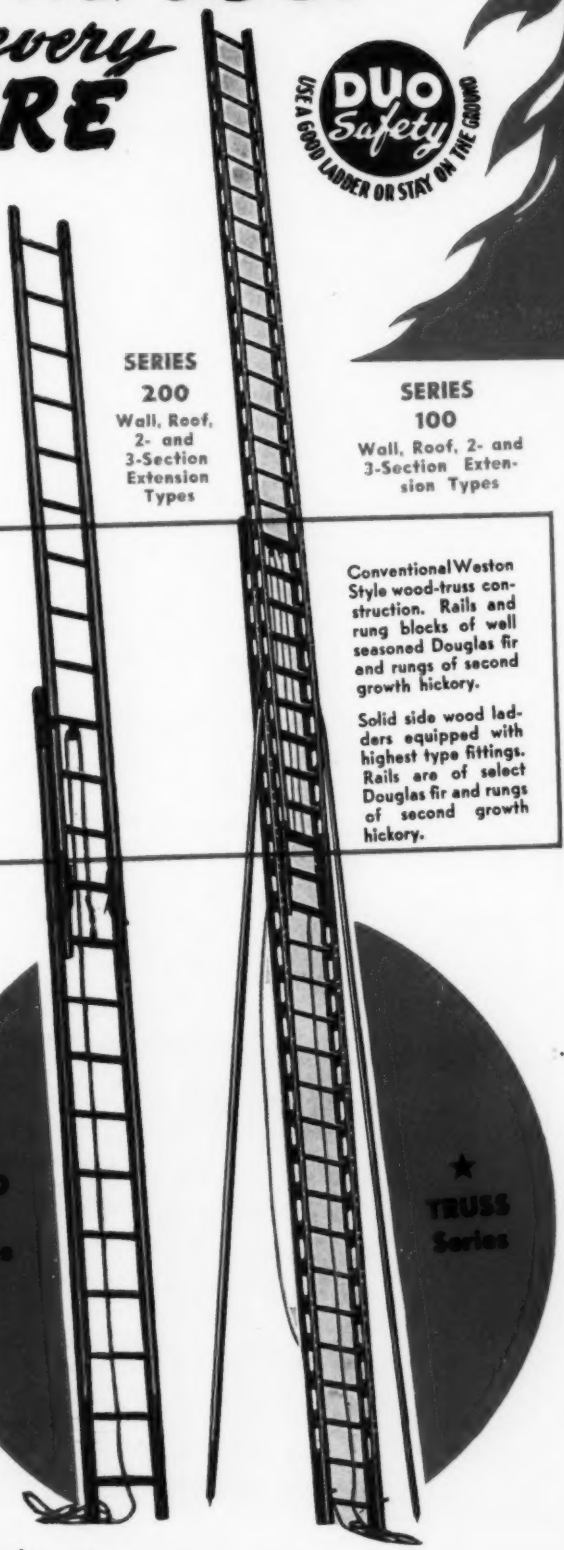

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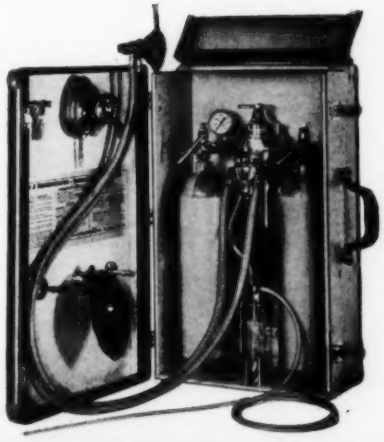

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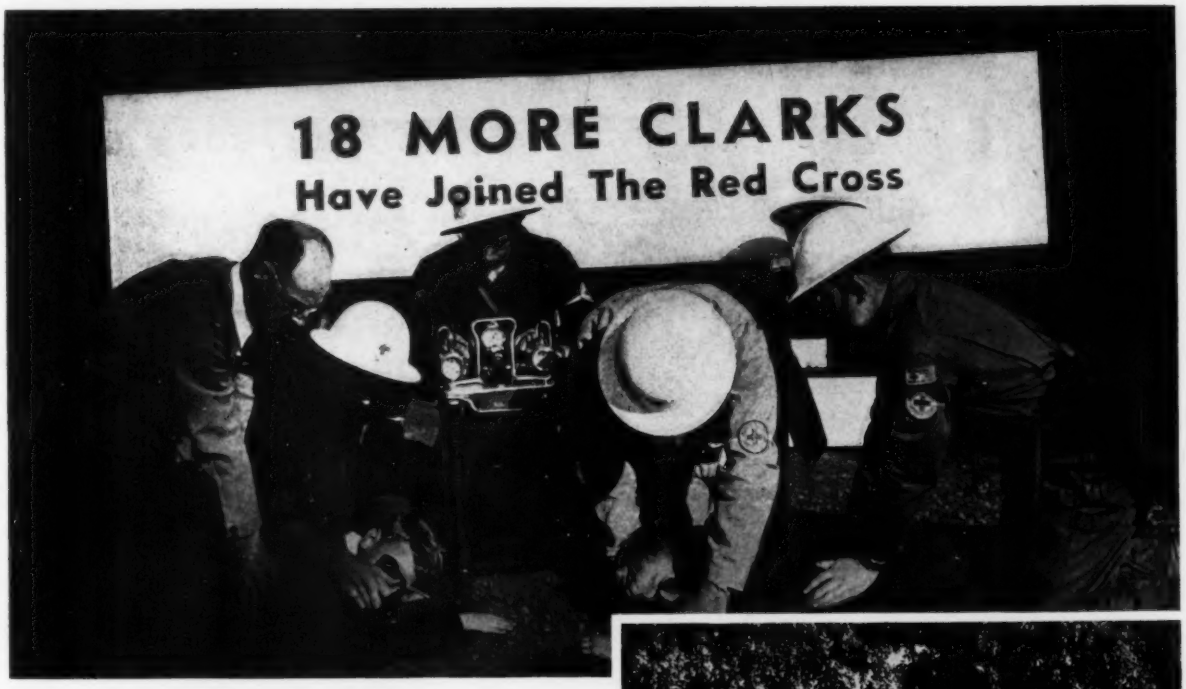

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FIRE ENGINEERING

VOL. 95. NO. 12

With the Editor

Keeping an Able Chief

Around the first of the year many volunteer fire departments will swap skilled fire chiefs for unskilled ones. This practice is an old one.

Where a department is made up of several independent fire companies, each company wants the honor of having one of its members as Chief of the department. To avoid dissention, the various companies agree to pass the honor around, each in order having it for a one-year or two-year period.

While the desire to maintain harmony is commendable, the changing of fire chiefs each year, or every two years, materially lessens the efficiency of the organization.

It takes at least two years for a Chief to become thoroughly acquainted with the job, and about the time he has reached his greatest effectiveness, he is replaced by a new candidate who must cover the same ground as his predecessor before he becomes fully qualified as commanding officer.

Not only is this periodic swapping of chiefs weakening to a fire department, but frequently a particularly able officer is replaced by one of far less ability.

As a specific example, the chief of an eastern volunteer fire department in his two years of service instituted many innovations which benefited the department tremendously.

He established a fire school under capable instructors; he brought about the purchase of much new apparatus and equipment; he improved public relations to a marked degree, and his leadership was a major factor in lessening fire losses.

And what recognition did he get for this splendid work? He was returned to the ranks at the end of the two-year period of tenure as Chief.

We feel that not only the department but the community as well is the loser by changing fire chiefs every year or two without reason other than department policy. And the National Board of Fire Underwriters, which is the engineering organization of stock fire insurance companies, apparently feels likewise, for in its "Standard Schedule for Grading Cities and Towns with Reference to their Fire Defenses" it is stated: "Chief's Tenure of Office. — Chief shall hold office for an indefinite term and be removable only for cause after public trial." A deficiency of ten points is charged if the Chief is removed without cause.

In peacetime the periodical changing of chiefs is unwarranted. In wartime, with reduced ranks and far greater responsibilities in protecting war industries and critical materials, the practice of switching chiefs should be abolished!

* * *

OCD Fire Schools

The Office of Civilian Defense has embarked on a program of teaching fire department members the essentials of teaching. The plan is to give selected firemen and officers an eighty-hour course of instruction on teaching major fire fighting practices.

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We have previously questioned the ability of the OCD to carry this program to a successful conclusion, for training fire officers in "teaching major fire fighting practices" entails on the part of the instructors a very full knowledge of fire fighting practices in cities of all sizes. We question whether the OCD staff has men meeting these vital qualifications.

During a recent visit to the OCD at Washington, the Editor discussed the program of teacher-training quite fully with OCD representatives, who pointed out that under proposed plans the training program will ultimately be designed to provide instructors for auxiliary firemen and other civilian defense workers.

It has long been apparent that there was a critical need for capable teachers for auxiliary firemen. If firemen in numbers were trained in proven methods of conveying what they know to others, the difficult and discouraging task of training auxiliaries in the rudiments of fire fighting would be largely solved.

Should the OCD confine its efforts to this end, it can count on wholehearted cooperation of the fire service. But if it plans to train teachers for professional firemen, it is likely to encounter serious opposition on all sides. Professional firemen are already well trained in their work!

* * *

Sand, Stirrup Pumps and Bombs

The new type of explosive incendiary bomb now being employed by the Axis Powers has made obsolete all the training in bomb extinguishment sponsored by the Office of Civilian Defense. In a recent release by the OCD the shovel and pail of sand were condemned as fire extinguishers for the new bomb.

So powerful is the explosive in the newest incendiary bomb that a brick barrier four and one-half inches in thickness is needed to afford complete protection.

If the explosion is so violent, it seems to us that any close-up attempt to control the burning bomb or fire it is starting would be fraught with extreme hazard to the operator. The use of even stirrup pumps, it seems to us, would be inadvisable. For if fragments of metal, projected by the exploding bomb, could penetrate several inches of brickwork, these fragments would travel with dangerous velocity for a distance far greater than the range of a solid stream from stirrup pump. Unless a very sturdy shield were provided the operator, he could not safely approach a burning bomb sufficiently near to hit it with a stream.

If these bombs are likely to be commonly used by the enemy, the public must be told of the great hazards in connection with them. Thereafter, how many of the public would attempt to operate on such bombs if they are dropped by the enemy is a question which can only be answered after an air raid. We believe the number would be very small.

In view of the comparatively small number of incendiaries likely to be dropped on American cities by the enemy, it seems logical that the task of extinguishing the fires they start might better be assigned to trained fire fighters equipped with motor operated fire apparatus. Fire loss would undoubtedly be greater, but loss of life, far less.

* * *

Merry Christmas!

Heap on more wood! — the wind is chill;
But let it whistle as it will,
We'll keep our Christmas merry still.
— Sir Walter Scott

In a world stricken with war, we of the United States are fortunate in our right to worship as we will; to worship without the fear of death-dealing bombs from the sky. Let us hope that no change is in store for us. And, as the Christmas season approaches, may we extend to all our readers our heartiest wishes for a Christmas of peace and happiness.

Fred Sheppard

Boston Night Club Holocaust Claims Over 500 Lives

Cause of Fire Not Yet Established; Blocked Exits Responsible for Heavy Loss of Life

By ALTON H. BLACKINGTON

FIVE hundred persons are dead and 200 others seriously injured as a result of the "flash" fire and panic that swept the Cocoanut Grove night club in Boston, Mass., on Saturday evening, November 28.

The "Grove" was one of the largest and most lavish of New England "hot spots," and was located in the heart of the club, theatre and film district in the Park Square Section of the South End.

It was famous for its palm-garden dance floor with moving stage and roll-back roof that permitted dancers to see the stars on pleasant evenings. This main dance floor had a seating capacity of about 500.

Adjacent to this large room, where food and drink were served at tables set among paper palms around three sides of the floor, was a new cocktail lounge and bar; a smaller bar at the right of the main entrance; and a newly opened Melody Lounge in the basement comprised the general layout. The rooms were connected by narrow corridors and a glance at the accompanying illustration shows the entrance through a revolving door on the Piedmont Street side of the building.

There was one other door in the far end of the Broadway side of the cocktail lounge and a few exits, which were not used because they were hidden by drapes. Witnesses have testified that other doors were locked and barred—at the time of the fire. With nearly 1,000 merrymakers, divided into four groups, and all of them dependent upon the revolving door as the principle exit, it is not difficult to understand why so few escaped.

That many were burned beyond recognition, and hundreds of others died from the inhalation of smoke, flame and fumes is also understandable when one reads or hears the testimony of fire officials, police, doctors, army and navy men, and those who were lucky enough to get out alive.

Probably no fire in the nation's history has caused as much comment and speculation, as much grief, and horror. Surely no holocaust has had so many angles, or has brought forth so many contradictory statements.

While parts of the building were frequently called "new," and on applications for food and liquor licenses were labeled as such, it was really an old, made over set of buildings, frequently referred to as a re-built garage. The opinion was expressed that possible fumes, left in tanks, had exploded, providing the "ball of fire" mentioned by several witnesses. This idea was dropped when it was learned that the main building was once a film exchange.

The one story, Piedmont Street, section was of stucco; the Shawmut Street side was of brick, with fancy modernistic designs that disguised the old plate glass windows; and the corner building on Broadway and Shawmut Streets was a very old three story brick house that by no stretch of the imagination could be considered modern. Dressing rooms for the show girls and rest rooms for the help were on the top floors. Statler Hotel guests could see the whole layout from the eastern side of that building.

The Cocoanut Grove had been in operation about 15 years, and in prohibition days was a popular gay-spot made famous by Charles (King) Solomon, who left the "Grove" one night in the mid 30's to visit the nearby Cotton Club. There he was murdered, and following his death

Photograph Courtesy of Boston Globe

Cocoanut Grove Night Club After Fire, as Seen From the Corner of Broadway and Shawmut Street

the "Grove" was taken over by Barnet Welansky, a well-known Boston attorney. Mr. Welansky was ill at the time of the fire and is still confined to the hospital. His physicians say it will be weeks before he will be able to testify.

An insignificant blaze in an automobile saved many lives on that fateful Saturday night. Here is what happened.

At 10:15 P. M. a passerby pulled Box 1514 at the corner of Stuart and Carver Streets for a blazing auto, bringing engine companies 35, 10, 7 and 22. Also responding to that box were ladders 13 and 17, Rescue Company 1, Tower 2, and Deputy Chief Louis C. Stickle of Division 1 and District Chief Daniel Crowley of District 5.

When the chiefs arrived, the fire in the auto was out, and most of the companies were either making up or starting back; at that moment somebody yelled that the "Grove" was on fire just around the corner.

Deputy Chief Stickle ran the short distance, and found thick clouds of black acrid smoke rolling in great billows from the building. Not knowing that Box 1521 had already been sounded at 10:20, he skipped the first and second alarms and ordered a 3rd at 10:23. One minute later, when sheets of flame seemed to envelop the whole building, he ordered a 4th alarm, at 10:24. The 5th alarm, to bring additional manpower, was sent in by Chief McDonough at 11:05.

The first alarm from Box 1521 at the corner of Winchester and Church streets at 10:20 P.M. brought engine companies 3 and 26, the Deputy Chief of Division 2, the District Chief of District 7.

Many of the firemen and much of the apparatus that responded to Box 1514 for the auto blaze were already at the burning nightclub when the first alarm companies rolled in to box 1521. No one will ever know how many were saved by the coincidental arrival of those first companies.

It is impossible to describe the scenes of horror in those first terrible moments when scores of human torches raced from that inferno, screaming as they died. Others followed, and soon the street was littered with blazing and burned bodies. Then, as the revolving door became jammed, and the searing flames snuffed out the lives of hundreds more inside, the firemen managed to get streams of water in, and more bodies out of the vestibule where the revolving door was located.

Windows made of glass blocks were smashed and streams of water used to cool down the interior so that rescue work might go on. Testimony at the inquest conducted by Fire Commissioner William Arthur Reilly will shed more light on conditions at the beginning of the fire.

The third alarm, sent in at 10:23, brought engine companies 2, 12, 32, 33, 34 and 39.

On the 4th alarm, sounded one minute later, engines 8, 9, 16, 21 and 23 responded, with ladder 12 and District Chief 9.

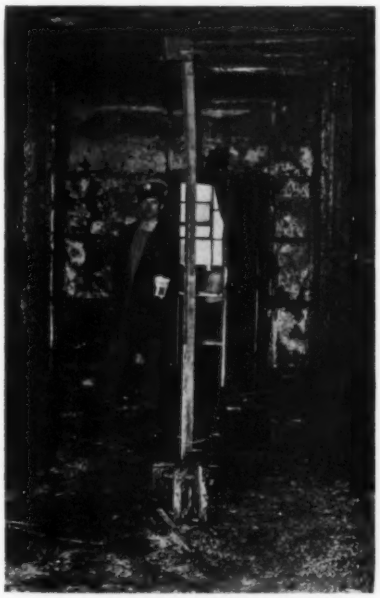
The 5th alarm, called because of need for rescue work rather than fire fighting, brought engines 18, 20, 37, 50 and 53, also Rescue Companies 1, 2 and 3 (some of these were already at the scene) and fuel wagons and lighting trucks.

Without the large Saturday night crowd, and if the entrance had not been solidly blocked with bodies, the fire could have been brought under control in a short time. Ordinarily it would have been considered a 2 or 3 alarm fire at most. All early efforts were of course bent on rescue work and first aid.

Photograph Courtesy of Boston Globe

Buildings Included in Cocoanut Grove Night Club Encircled by White Line. Photograph Made After the Fire

The "all out" was sounded at 3:42 A.M. on Sunday, but long after that the firemen and police, Civilian Defense and other agencies probed the blackened shell for bodies that lay buried under debris.



Photograph Courtesy of Boston Globe

Revolving Door Exit Where Scores Struggled Vainly to Escape. The Door was Demolished by the Flames

The entire section of the city was roped off for hours and was under military guard. Streets were kept open for the hundreds of cars, trucks, express wagons and ambulances that raced from the scene of disaster to hospitals and morgues. A half million people visited the fire area and pushed six deep against the fire lines to gape with grief at the smoke and flame seared ruins. One hundred traffic officers were kept on duty for twenty-four hours to handle the crowds. At noontime, on Monday and Tuesday, 20,000 people shuffled slowly along Shawmut Street and Broadway or peeked down Piedmont Street where the revolving door had trapped so many. The streets were still littered with hats, shoes, torn and burned clothing, and piled up furniture.

Scenes in the hospitals and morgues are indescribable.

By mid-afternoon Sunday, the immediate area in front of the ruins was cleared as high ranking Army and Navy officials, F.B.I. agents and State detectives made an inspection. A huge pile of officer's hats, and service mens' clothes told of the great loss to the armed services.

Every hospital in the city was taxed to capacity. Outlying districts sent hundreds of stretchers and doctors, nurses, civilian aides, workers of every description.

When the victims were brought to the hospitals they were divided first into the living and the dead. The latter were taken to mortuaries, the others were given morphine as an antidote for shock, placed in warm beds, and plasma was given to reduce shock.

Through the efforts of Boston's Committee on Public Safety, a Master Disaster File was used to check and recheck the names—a Herculean task the Massachusetts Women's Defense Corps.

Fire Inquest Opens

Sunday afternoon the first of the Official Inquests got under way, at Bristol Street Fire Headquarters, opened by Mayor Maurice J. Tobin of Boston. Fire Commissioner William Arthur Reilly acted as head of the Board of Inquiry while Captain Walter Smith, U.S.N., Captain Roland C. Grady, U.S.N., Dept. of Justice agents and State Fire Marshal Stephen C. Garrity sat as observers.

The origin of the fire was discussed by district and deputy chiefs, and it was generally agreed that the task of fighting the fire was deferred until all possible survivors within reach of the entrances had been removed.

"Bear in mind, said Com. Reilly, "that the cause of death must be determined by the courts through the medical examiner."

District Chief John F. McDonough was the first witness, and, under oath, said, "I met Supt. Fallon of the Police Dept. on Piedmont Street, and we looked into the entrance of the Club together. I saw a heap lying in the vestibule and thought it was a dummy. I crawled in and touched the body. It was nude, with the clothes burned off entirely. Then I backed out. The heat was terrific. We moved around to the Broadway side and opened an exit door. One of my men crawled in with a gas mask and came back to report that there were a lot of bodies inside. The heat was so intense, the men with gas masks went in on their stomachs and couldn't stay. They would snatch at an arm or leg and back away, dragging the body free. I got a hose line to cool it off so we could work. One of the men with a mask reported there were a lot of bodies on the stairs, and I got hose lines in there to cool it. Then I met Chief Pope and we went to the Shawmut side of the building and directed the work of recovering valuables and wraps to help establish identification later."

Reilly: "Would you say there was a panic there?"

McDonough: "Evidently."

R.: "Was it a heavy or light fire?"

McD.: I'd say it was a flash fire.

R.: "Any other causes that you observed?"

McD.: "I checked on an egress door on the Piedmont side which was equipped with a panic lock, and found that the panic lock was not working, that the bolt was shot, and the door locked so the panic bolt couldn't work. I had the photographer take a picture of it."

Reilly: "Were there any bodies piled up at the door with the panic lock?"

McD.: "They were about ten feet in, all piled up. Chairs and tables were piled and tipped over."

Photograph Courtesy of Boston Globe

Eight Persons Escaped Through This Small Window

Where Fire Started

Reilly: "Did you form any opinion as to what part of the building the fire started in?

McD.: "I was informed a man had lit up a palm in the main dining room.

District Chief John J. Kenney of the Fire Prevention Division, responsible for the inspection of buildings, testified that he arrived on the fourth alarm.

Reilly: "Where did you see the first victim?"

Kenney: "I saw the first one when I fell over a chair and came in contact with two bodies.

R.: "What position were they in?"

K: "They were under a table. There were twelve or fourteen bodies covered by debris near the stage on the left hand side."

R.: "Did you observe any signs of panic?"

K.: "Absolutely, Sir."

R.: "Did you form any opinion where the fire started?"

K.: "Yes, I did. Because I found a body in a telephone booth badly burned near the annex to the bar, I felt it was there. The floor seemed about to cave in at that point. I had a ladder propped up to bolster it. In the passageway between the main room and the annex I noticed that the thimble of the chimney was burned through."

R.: "Would the burning of the chimney thimble indicate anything?"

K.: "Possibly because there was a grease flue that went up at that point."

R.: "Have you any other information?"

K.: "After the fire was extinguished, I found that the check room was scarcely scarred by fire. Bundles of laundry still wrapped in the original paper were unburned."

District Chief Louis C. Stickle, previously mentioned, testified that when he arrived from the auto fire, he saw a man hanging over the window on the Broadway side of the club, and then the flames came up to him; that there were bodies on the Shawmut Street sidewalk and that the crowds milling around pushed him one way and another. He considered that panic had taken place and that it was a quick-spreading fire. This was corroborated by Deputy Chief Daniel Crowley.

When questioned by Commissioner Reilly as to where the fire had started, Chief Crowley said, "I'd say on the Broadway side of the building on the street floor."

District Chief Wm. J. Mahoney was asked, "Have you any idea where the fire started?"

"It was my impression that it was in the corridor at the Broadway end."

Chief Mahoney testified that, "We got forty bodies out of the cocktail lounge on the Piedmont Street side and at the foot of the stairs—they were burned frightfully."

Com. Reilly asked, "How do you think the fire got downstairs?"

"The flash, I would say, with all that stuff heated to the ignition point and then a swoop of flame touching it off."

H. C. Gray of Waltham stated that he was seated with a party in the main dining room near the actors' entrance to the stage at 10 o'clock when he noticed that the side of the wall "felt hot." Mrs. Francis Driscoll in the same party said, "I smell smoke." This was one-half hour before the flash. (A Boston paper had put forward the theory, allegedly based on its independent examination of the ruined building, that fire was burning in the walls of the Grove for some time before the "flash" in the palm tree occurred.)

As the inquest proceeded, during the week, much interest was aroused by the testimony, under oath, of Lieut. Frank J. Linney, who declared that on Nov. 19—ten days before the fire—he had personally tested six of the imitation palm trees with a lighted match, and all were "fireproof."

Lieut. Linney's report on his inspection of the Cocoanut Grove was introduced as evidence. It was typed and dated Nov. 30, two days after the fire, but Com. Reilly explained that the actual report written in longhand was made out Nov. 20th, and that the Nov. 30 date was a typographical error. Lieut. Linney's report was as follows:

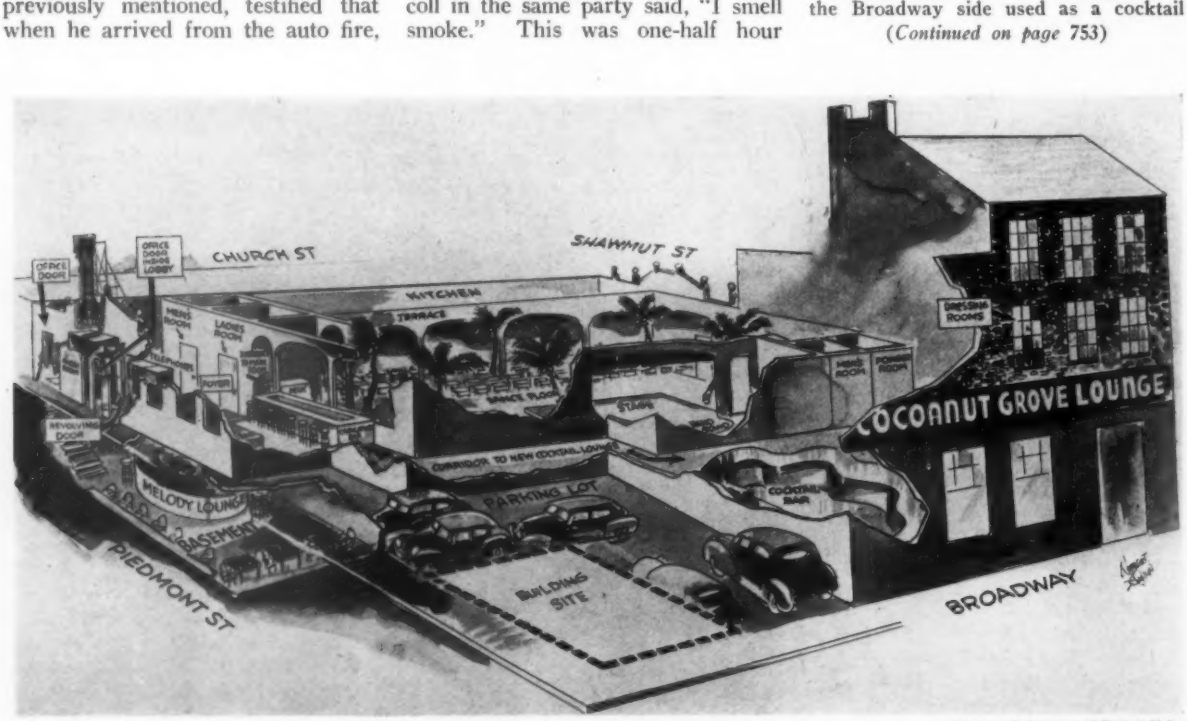
Text of Linney Report

FROM: The Fire Prevention Division.
TO: The Fire Commissioner.
SUBJECT: Inspection, Cocoanut Grove, 17 Piedmont Street.
OWNER & MGR.: Barnet Wilansky, Night Club.
Building: 1 story, occupies approximately 7,500 square feet.

I submit the following report of inspection made this day, November 20, 1942, and in my opinion condition of the premises is good.

A new addition has been added on the Broadway side used as a cocktail

(*Continued on page* 753)



Photograph Courtesy of Boston Globe

Cut-Away View of Cocoanut Grove Night Club

Cincinnati Installs Novel Airmatic Task Unit

Utilizes Compressed Air for Many Emergency Operations; Includes Smoke Ejector

By BARNEY J. HOUSTON
Fire Chief, Cincinnati, Ohio

BEFORE trying to describe this Unit it would be well to dwell upon the reason for it.

During the many years of fire fighting experience, the need for special tools and equipment was apparent. The writer has been at fires where heavy walls and floors of different types of construction had to be penetrated before the fire could be attacked. Poisonous and gaseous atmospheres had to be entered and ventilated.

Some of these problems necessitated calling for help from the different city departments or the Public Utilities. It is obvious that this caused delays which meant the possible loss of life and property. After these experiences the thought was what could be done.

After considerable time, thought, and discussion, the writer received the inspiration at the Fire Chief's Convention in 1937 at San Francisco, California, from Mr. Edward Lamb, a member of the San Francisco Fire Department, who was the inventor of the Lamb Air Foil. He also demonstrated some of the pneumatic tools that could be used for emergency service. With the great confidence and zeal as only Mr. Lamb could express it in the use of pneumatic tools in connection with an apparatus like this for the fire service, the writer could not but be impressed with its possibilities.

With this inspiration came new difficulties, each as how to convince the City Officials of the need of an apparatus such as this. The old Squad Truck had been in service for twenty-five years, therefore, the need for replacement was obvious. The consent of the City Officials was obtained and the money appropriated.

Now the problem was to have some reputable firm bid on and build the apparatus. All of the fire apparatus builders seemed to be reluctant to attempt the job as there was no pattern or model to work from and they had to start from scratch. Then the war started and created many more difficult problems such as lack of materials, priorities and the Government's demand for new apparatus.

Power Saw, Driven by Compressed Air, Does Its Stuff

Finally the Seagrave Corporation of Columbus, Ohio, submitted a bid which was accepted by the City. Now came the difficult task of designing the apparatus with all of the compartments necessary to carry the tools and equipment; also, the installation of the large compressor.

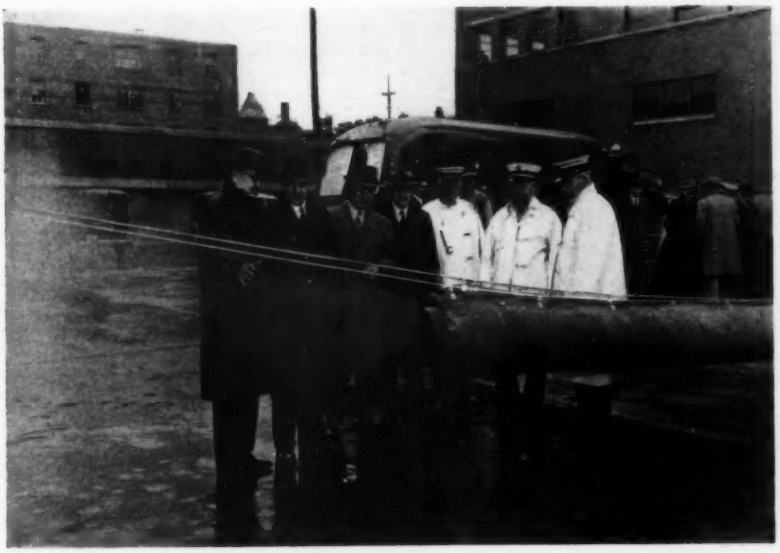
All of these problems were solved and the W. P. B. granted permission for the construction of the Unit.

The Chief Engineer Mr. Haven and his assistant Mr. Hooker made several trips to Cincinnati to take measurements and make observations from the old Squad Truck.

Finally the Task Unit was delivered to the Department at Cincinnati on November 2, 1942, where a series of severe tests were conducted as follows:

Test #1—On a level, well-paved road from a standing start, the truck attained a speed of 35 M. P. H. within 500 feet.

Test #2—On a level, well-paved road while running in high gear



Demonstrating Smoke Ejecting Apparatus

at 15 M. P. H. accelerated to 45 M. P. H. in 30 seconds.

Test #3—Drive 25 miles within one hour over any road with grades not to exceed 10%, and not to exceed 35 M. P. H. at any time. Apparatus to operate during the test with no apparent lack of power and without development of undue heat or distress.

Test #4—Drive up a 20% grade forward and in reverse, come to a dead stop and be held with the foot brake and then the hand brake.

Test #5—Operate the air compressor at full capacity, continuously for 3 hours, without overheating.

All of the above tests were successfully completed without exceeding the peak of the engine H. P. curve.

The apparatus is of the Sedan type, open at the rear but protected by a canvas curtain.

It has a 12 cylinder Seagrave Motor, 240 B. H. P. at 2400 R. P. M.

The air compressor is an Ingersoll-Rand vertical two-stage air-cooled, single acting, with a capacity of 360 C. F. M. at 100 pounds pressure.

It is driven by a Hercules power take-off from the drive shaft of the truck with a seven V belt drive.

There is a tank on each side acting as a reservoir. From each tank there are two ¾ inch and one 2½ inch discharges leading from the outside of the body. There is also a hose reel on each side carrying 200 feet of ¾ inch hose with the universal fast-type connections. These reels of hose are connected to the air reservoirs and can be used in the same manner as a booster line on a pumper.

Where long lines are necessary, a regular 2½ inch hose line can be laid, then a 2½ inch gate valve wye connected, then two small wyes connected to this, giving four ¾ inch openings to operate from.

Requisition has been made for two hose masks with reducing valves that may be connected to the air lines; these masks are to be used in places where the men cannot enter with the larger oxygen helmets such as in tanks, sewers, conduits, etc.

Some years ago, I became interested in the need of some device which would remove smoke or fumes from confined spaces, after the great loss of life in the Franklin Street tunnel at Chicago. I was sold on the idea of a smoke ejector, but this apparatus being large—with only one use, it didn't seem feasible to add a unit of this kind unless we could design a piece of equipment with this feature and also including other necessary tasks we meet with at many fires. Therefore, after witnessing the efficiency of the Lamb Air Foils, we designed the Airmatic Task Unit which can be used in many firemanic activities including the smoke ejector feature all in one compact unit.

The Airmatic Task Unit is a high powered motorized unit with a formidable compressor plant, featuring the "Lamb" System of utilizing compressed air as a method for purging smoke from burning buildings or exhausting noxious gases from any confined area. Designed to admit entrance by firemen, yet this is but one of the many various functions which the "Airmatic" makes available to the service.

The Business End of the Smoke Exhauster
Lamb Air Foils utilize compressed air to drive out smoke-charged air.

Utilizing the advantages inherent to the use of modern air tools, compressed air becomes a major factor in operations; valuable time can be saved and manual labor avoided. The Airmatic Task Unit serves to operate any, or all.

Description of Lamb Air Foil

A unique device, basically different, light in weight, and therefore, more portable, this Air Mover can be moved about in confined spaces.

It does not utilize the principle of suction. Compressed air at appropriate pressures is fed directly to the Lamb Foil and within which the air is expanded at high velocity, thus inducing a powerful venturi effect with the result that large volumes of the smoke or other contaminations are drawn through the device actually forcing the issue to the point of safe discharge through two 50 ft. sections of rubberized canvas hose to lead to outside atmosphere. Devoid of moving parts, explosive hazards are eliminated.

Two 6-inch Lamb Air Foils plus the air leading and exhaust conducting hose, together with couplings constitute the "Purging Equipment" and the effectiveness of which, in connection with the Airmatic Task Unit

Gas Mask Supplied with Fresh Air by Compressor and Storage Equipment

can be approximated from the following:

Compressed Air Required and Volume of Discharge

Air Pressure (lbs. per sq. in.)	Volume Displacement (in cu. ft.)	(in cu. ft.)
20	48	852
30	91	1259
40	142	1658
50	192	2058
60	242	2458
70	293	2857

By certified tests of actual performance.

This Airmatic Task Unit is the answer to many of the problems that may be created by war conditions.

Following is an inventory of the equipment that is carried on the truck:

1 portable air-powered safety saw with three 12-inch blades—three teeth per inch. Saw to be capable of cutting to a depth of at least 4 inches.
1 Portable air drill capable of drilling a 3¼ inch hole through a 12 inch concrete or brick wall. Approximate weight, 44 lbs.
3 2 ft. x 1 inch hexagon jack rods. Type 1.
1 4 ft. x 1 inch hexagon jack rods. Type 2.
12 1⅞" jack bits, side hold. Type 1.
2 3⅛" jack bits, side hold. Type 3.
1 Type 1 to type 3 adapter.
Demolition tools consisting of one medium and one heavy duty type pneumatic breaker with 1⅛ inch steels, accessory tools with each breaker to consist of 6 moil points, one 3" wide chisel and one 5" wide chisel. Medium tool shall weigh not less than 50 lbs., and the heavy tool shall weigh not less than 75 lbs.
1 Heavy type core breaker with two moil points and one spade. Core breaker shall weigh not less than 25 lbs. Air consumption shall be not more than 38 cubic feet of free air per minute at 80 lbs. gauge pressure.
1 Homelite generator.
1 250 watt Crouse-Hinds flood light.
1 500 watt Crouse-Hinds flood light.
1 1 gallon C-T extinguisher.
1 2½ gallon water hand pump extinguisher and 10 qt. bucket.
1 Airco-Davis oxy-acetylene cutter (complete)
1 Kerotest portable oxy-acetylene cutter, complete with carrying case and all standard equipment.
1 Voleski bar cutter (¾ inch).
1 wire cutter.
1 Randolf bolt cutter (36 inches long).
1 pair tin snips.
3 axes (1 pick, 1 chisel, 1 hand).
6 saws (1 rip, 1 cross-cut, 1 keyhole, 2 hack, and 1 large cross-cut)
1 2-inch auger and handle.
2 Silver King hydraulic jacks and handles.
2 Barrett ratchet jacks and handles (20 ton)
2 Joyce screw jacks and handles (35 ton)
3 coils of ¾-inch cotton rope (50 ft. each.
1 coil of ¾-inch manila rope (75 ft. long).
1 coil of ¾-inch manila rope (150 ft. long).
1 block and tackle with ¾" x 175' manila rope.
1 rope (Jacobs) ladder 33 ft. long.
1 dog knot throwing ball.
1 Hose hoist complete.
1 Detroit door opener.
1 Huxel utility bar.
2 sledge hammers (one 12 lb. and one 8 lb.).
4 picks and handles.
1 spade.
1 sand shovel.
1 manhole lift and wrench.
1 LaFrance fresh air mask.
2 keys (one water and one gas)
3 grappling hooks with 3 lengths of pipe (10 ft.).
4 two hour McCaa masks and 4 extra bottles of oxygen.
2 trench spades.
4 Burrell all-service masks with 3 extra canisters.
3 H & H inhalators.
1 E & J resuscitator.
4 cardoxide refill canisters.
3 inhalator wyes.
2 inhalator hoses.
1 face piece.
3 mask spiders.
5 bed sheets.
8 towels.
Splints (arm, leg, back, and one set of Thomas).
6 blankets.
5 bathing suits.
4 wading suits (vapor and gas proof)
1 syringe and vaseline.
1 stretcher and rubber sheet.
2 pair rubber gloves.
2 pair leather gloves.
2 pair asbestos gloves.
2 pair wooden tongs.
1 shoe spoon.
2 invalid bags.
1 SF Hayward life gun and case.
1 life belt.
1 MSA explosometer.
1 fire alarm box telephone.
1 first aid kit.
1 set socket wrenches.
1 set refrigeration tools.
1 cold cut.
2 chock blocks.
2 quartz Burrows solution
1 box alarm location book (No. 74)
1 Wolf lamp.
1 4-oz bottle naphtha.
2 sterile draw sheets.
1 Davis fire escape.
4 rubber hoods
2 pair leather gloves.
4 pair rubber gloves (for gases)
1 rod for explosimeter hose.
2 straps for air tubes.
2 Trimo wrenches.
1 monkey wrench.
4 cold chisels.
3 pin punches.
1 adjustable wrench
1 ball pien hammer
17 open end wrenches.
1 20-ft. extension ladder.
2 10-ft. collapsible ladders.
1 ceiling hook.
1 two-way radio.
1 rope ladder.
2 pompier ladders.

Cincinnati's New Airmatic Task Unit

Chris Noll Dies

Chris W. Noll, Fire Chief in Poughkeepsie, N. Y., for twenty years, died on November 18 after a brief illness.

A fireman since the turn of the century, Chief Noll watched the development of fire companies from the days of horse-drawn apparatus to the present system of motorized equipment and two-way radio.

The Late Chief Chris W. Noll

A past president of the New York State Volunteer Firemen's Association, Chief Noll has been Secretary of the State Fire Chiefs Association for fifteen years and Secretary of the Hudson Valley Volunteer Firemen's Association for twenty-six years. He was a founder and former president of the Mid-Hudson and Harlem Valley Fire Chiefs Association and a director of the State Zone Firemen's Training School.

Civilian Protection Courses to Be Held

A series of short, specialized courses in organization and techniques of civilian protection for local defense officials, instructors and key plant personnel was announced recently by the War Department and the Office of Civilian Defense. The courses will be given at six universities by the Chemical Warfare Service.

Replacing the ten-day general courses which until now have been offered by the War Department Civilian Protection Schools on behalf of the OCD, four five-day courses will be given on the University campuses, the first course having started on November 29. The subjects covered are plant protection, gas defense, staff and basic protection.

The War Department announced that beginning with the November 29 course its Civilian Protection School at Texas Agricultural and Mechanical College will be discontinued and a new school established at Loyola University, New Orleans.

The other institutions, where protection schools will continue to be held, are Amherst College, Amherst, Mass.; Purdue University, Lafayette, Ind.; Stanford University, Palo Alto, Calif.; University of Washington, Seattle, and Occidental College, Los Angeles.

Practical Training for Auxiliary Firemen

By FRED SHEPPERD
Editor, FIRE ENGINEERING

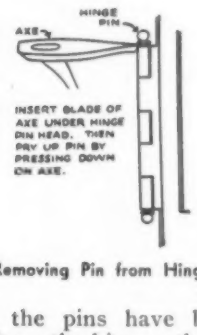
IN this installment of the series of articles on "Practical Training for Auxiliary Firemen" are discussed additional tools used in forcible entry work and how they are manipulated.

Tools for Forcible Entry

Q. Where hinged door opens outward, what is the procedure in forcing it?

If the door opens outward, and the hinges are accessible, it is advisable to remove the pins from the hinges or rip the hinges off the door or the frame.

In removing the pin from the hinge, the blade of an axe is inserted under the top of the pin, and the axe pried downward, forcing the pin upward.



Removing Pin from Hinge

After the pins have been removed from the hinges, the hinged side of the door will readily come outward, if necessary, with the assistance of one of the forcibly entry tools.

If the door panels are thin, it is sometimes possible to remove them without breaking them. In this operation the bead around the edge of the panel if pried free from the door, and the panel can be pried out. If the bead is on the inside of the door, then it will be necessary to break the panel or drive it in.

If the fire is burning vigorously just within the door, it may not be possible to enter through the door after the panel has been removed. In such case, it would be best to force the door if possible. If not, then remove the panel and operate the streams through the opening so formed until fire is sufficiently cooled to permit a man to get into the room.

In removing hinges, where they are exposed, the blade of an axe is driven down behind the portion of the hinge on the frame of the door. This operation cuts off the screws which hold the hinge to the frame, and the door is thus freed on one side. This side is pried out and the door removed from the frame.

It should be remembered that where a door is held closed by bolt, the hinged side is usually the weaker side, and there the effort should be centered.

If the door opens inward, and is locked or latched from the inside, but not bolted, it will usually spring open after several heavy blows have been struck by the head of an axe on the solid portion of the door beneath the lock.

But if the door is bolted, then it would have to be driven in on the hinged side. Direct the blow at the point where the hinges are likely to be located.

If the door is a heavy one and too bulky to be handled with an axe or other tools described above the battering ram should be used.

Q. How may a hinged door (double) be forced?

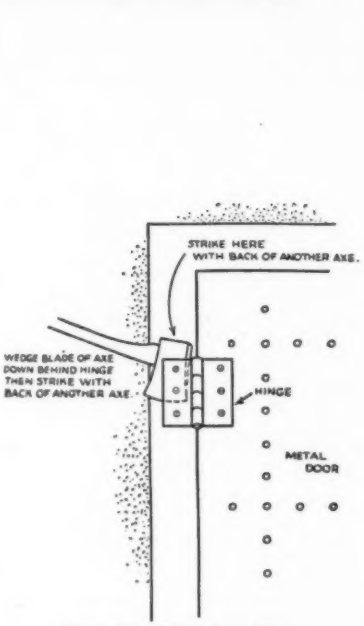
A. When hinged doors (double) are closed, one of them is closed first, and bolted at the top and bottom in the sill and overhead frame. The other door is then closed and locked in the same manner as a single door.

In forcing such doors, the operation is practically the same as forcing a single door. After one door has been opened, the other is opened by unfastening the catches.

In opening double doors, an axe, claw tool, lock breaker, Kelly tool, buster bar, jimmy, Hale, Detroit and Pirsch types of doors may be employed.

If the doors open outward, the Hale, Detroit and similar door openers cannot be used.

Q. How may a revolving door be forced, or collapsed?


STRIKE HERE WITH BACK OF ANOTHER AXE.
WEDGE BLADE OF AXE DOWN BEHIND HINGE THEN STRIKE WITH BACK OF ANOTHER AXE.
HINGE
METAL DOOR

Removing Hinge from Door

A. There are three types of revolving doors insofar as the methods of keeping them apart are concerned:

1. A revolving door that has a one-quarter inch cable holding the doors apart; this is a panic-proof door. To close or collapse this type of door, it is only necessary to push or press on the doors or wings in opposite directions, or else hold one wing from moving and push on the next nearest wing or door.

2. A door with a solid arm passing through one of the doors. This is a drop-arm door. To close or collapse this type, a pawl will be found on the door which the arm passes through alongside of the arm. Press this pawl to disengage it from the arm and push the door or wing to one side.

3. This type of door is held in position by metal brace arms that resemble a gate hook with eye. To close or collapse this type it is only necessary to lift the hook and fasten back against fixed door or wing. The hooks are on both sides of these doors. The pivots on the above doors are in most cases cast iron and can easily be broken by forcing the door with a bar at the pivots.

Q. How may sliding doors (single) be forced?

A. Single sliding doors, particularly around industrial plants are

difficult to open, for their fastenings are apt to be very secure.

Unless secured by a padlock on the outside of the door, or other fastening easy to break, the quickest way to open these doors is to remove a panel so that a man can get inside and open the fastening. When found on industrial establishments, storehouses, etc., a single sliding door is nearly always locked on the outside by padlock.

In some sliding doors, particularly such as are found on garages, a small door is frequently provided for entrance by employees. If the sliding door is firmly secured, it may be quicker to force the small door. The method of forcing this door will depend upon how it is locked, but in most cases it is locked with a Yale, or similar lock, and the method of opening is practically the same as with ordinary single doors.

Q. How should sliding doors (double) be forced?

A. These doors, when found on mercantile and industrial establishments, and locked are fastened together by a catch hook, padlock and hasp, or by hasp and pin. If the doors are fastened on the inside, such as at freight sheds, there is always another entrance to the structure, and this entrance should be used if any difficulty is encountered in forcing the sliding doors.

To open these doors, drive the blade of an axe in just below the fastening and unlock, or break the fastening with another axe or a cutting tool with maul or axe.

A claw tool as well as a lock breaker is very effective for forcing this type of door.

To open large sliding doors such as are found on freight sheds, shipping sheds, hay and grain warehouses, etc., it is first necessary to find out how they are fastened on the inside, and if this door is to be forced rather than some other door used.

To determine which fastening is employed, drive an axe between the doors and spring open far enough to see whether the fastener is round or flat. The round fastener is quite likely to be a hook while the flat fastener is almost invariably a hasp.

To unfasten the hook, drive axe in between doors and beneath hook and drive upward with back of another axe.

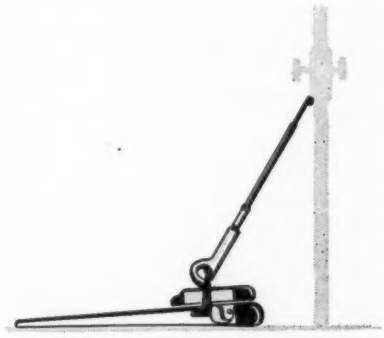
To open hasps, locate the ends of the staple to the side of the crack (between doors) and drive a punch directly between the two points. This punch must go through the door directly under the lock, for it must strike the slit in the hasp. As it is then driven further it carries the hasp, the lock and the staple with it. On the inside of the doors the lock is almost invariably found on the right, but when facing the doors from the outside the lock is then on the left of the crack. The punch which gives the best service is known as the combination punch and chisel. It has a punch in one end of an iron bar handle, and a chisel in the other.

As soon as the hasp is freed, the doors part readily.

Should these doors be found locked on the outside, the problem of forcing them is simpler, for the padlock, etc., can be removed as previously described.

Q. What is a Pirsch combination door opener and hose shut-off?

A. This tool is a combination hose shut-off, or clamp, and door opener.



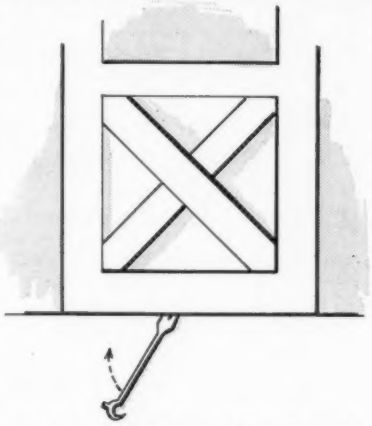
Using Pirsch Door Opener

As shown in the illustration herewith, when used as a door opener, the handle of the tool is employed as a compression rod. The point is placed beneath the lock on a door, and then the bottom portion is lifted in very much the same manner as is the Detroit door opener. The leverage accomplished by this operation forces the door free from its fastening.

This combination door opener and hose shut-off can be used as a door opener in place of the Hale or Detroit openers.

Q. What is the procedure in forcibly opening vertical sliding doors of heavy construction, such as found at loading platforms at warehouses, etc.?

A. Such doors, when closed, are almost invariably locked on the inside. The means of securing may be a padlock or a catch at the bottom



Forcing a Vertical Door When Fastened at the Center

of the door, or padlock and hasp along the edge of the door. To open such a door, where the fastening is at the bottom, and in the center, the forked end of the claw tool is driven beneath the door alongside the fastening, and the door is pried upward. A lock breaker, or Kelly tool, may also be used in a similar maner. If the lock breaker is of heavy construction, the adz end may be driven beneath the door, and the door freed of its fastenings by pulling the handle of the tool away from the door. Or the flat blade may be driven beneath the door and opening accomplished in the same manner as with the claw tool.

If the fastening is at either side of the door, whether near the floor or at a higher point, the claw tool or lock breaker is driven under the door directly beneath the fastening, and the door is then forced. As soon as the door is free of its fastening, it should be raised up by placing the tool at the center of the door to prevent jamming of the door in its groove or track.

Q. How should locked elevator shaft doors be opened?

A. Probably the majority of the doors leading from the various floors to an elevator shaft are not normally locked at night. Where such doors are locked, however, the fastening will usually be found near the floor in the right or left hand corner, depending upon the direction of opening of the door. In either case, a lock breaker will be found particularly effective for breaking the fastening. The adz blade of the lock breaker is driven between the door and the jamb just

above the lock, and the handle of the lock breaker pulled away from the door. This breaks the door free of its fastening. An axe, or claw tool, may also be used, but due to cramped space and the possibility of finding difficulty in freely moving the handle of the claw tool or axe sufficiently far to one side to spring the lock, these two tools may prove less effective than the lock breaker or Kelly tool.

Q. How are vertical fire doors opened at fires?

A. Vertical fire doors, which are used where there is insufficient room for horizontally operating doors, are rarely, if ever, fastened, and opening of them is a simple operation. If a door seems to be fastened, it is probably because the door is stuck. It may be freed by forcing the claw tool, axe, lock breaker or other tool beneath the door and prying upward.

Using Axe to Open Vertical Type Rolling Door

Q. What is the procedure in forcing vertical metal doors, of the rolling type?

A. These doors, which are made of interlocking strips of metal, are usually found on business houses, and are drawn down at the close of business hours. The fastening, which in most instances is on the outside, may be found at the sidewalk. It generally consists of a ring or staple set in the masonry of the sidewalk which lines up with a similar loop or staple, or a hasp on the door. An ordinary padlock secures the ring in the sidewalk and the fastening on the door together.

Lock may be broken by a sharp blow with the back of an axe, as previously described, or it may be wrenched off with a claw tool or lock breaker.

When the fastening is broken, the door should be raised by lifting at the center, and not at an end. This prevents the door from jamming.

When rolling metal doors (vertical) are fastened on the inside, opening them is a little more difficult operation.

The usual method of accomplishing this is to drive the blade of an axe along the sill beneath the door until the fastening is met. At this point the axe blade is driven in with the back of another axe and the fastening broken. The forked end of the claw tool, or spade end of a lock breaker, may be used instead of the axe for breaking the fastening, although the axe will probably have to be used to locate the fastening as well as spring the door sufficiently to make room for the other tool.

If the door is securely locked and does not give in to the above treatment, it may be necessary to chop a hole through it with an axe. The metal in the door is ordinarily of such thickness as to make it possible to cut through in reasonable time.

Q. What is the proper method of forcing iron doors (swinging type) at a fire?

A. Where this type of door is found fastened on the inside, it is often possible to open it by lifting it off its hinges. This may be done by driving an axe blade beneath the door and prying up, or using the forked end of the claw tool or lock breaker likewise. The blade should be driven under the door about one-third the distance between the hinged side and lock side.

The above applies particularly where the hinges are concealed, or where they are on the inside.

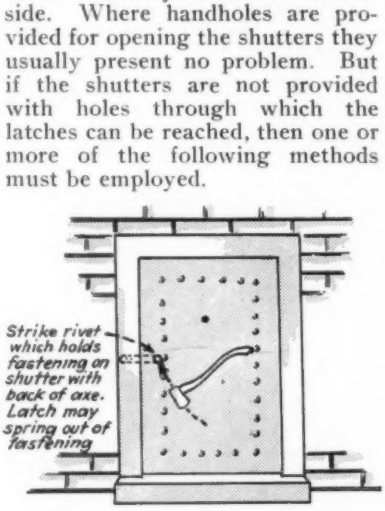
If the hinges are on the outside and are accessible, the pins may be removed with the blade of an axe. Or if this is not possible, the hinges can be broken with the back of an axe or the screws or bolts holding them cut off with an axe or cutting tool. If portable cutting torch is available, it is a simple operation to cut the hinges free from their pivots.

To cut the fastenings of a hinge, either an axe or a cutting tool may be used. In using the axe, the blade is wedged down behind the hinge, and then driven home with the back of another axe. The screws, or bolts, are by this means cut. The cutting tool with sledge is much better for cutting bolts or screws, but it is frequently not available, and in this case the axe must be used. The cutting tool is used in the same manner as the axe.

If an iron door is locked on the inside, and the hinges are not exposed, and the door does not give in to any of the above treatments, it may be necessary to use a battering ram, or butt of a ladder, for opening it. This, however, is only a final measure.

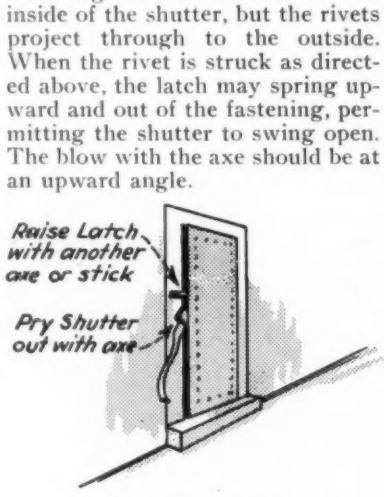
Q. How are iron shutters opened?

A. Iron shutters are found almost invariably locked on the inside. Where handholes are provided for opening the shutters they usually present no problem. But if the shutters are not provided with holes through which the latches can be reached, then one or more of the following methods must be employed.



Opening Iron Shutter with Axe

First try striking the lower rivet of the fastening, which holds the catch, with the back of an axe. The fastening for the catch is on the inside of the shutter, but the rivets project through to the outside. When the rivet is struck as directed above, the latch may spring upward and out of the fastening, permitting the shutter to swing open. The blow with the axe should be at an upward angle.



Forcing Iron Shutter

If this method does not bring results, an axe, or lock breaker or the forked end of a claw tool, may be used for prying the shutter out to permit unfastening the catch. The tool should be inserted under the shutter near the latch and the shutter pried out so that the latch may be raised with a stick or the blade of another axe.

Why Change Volunteer Fire Chiefs?

By JAMES J. DEASY
Battalion Chief Retired, New York Fire Department

SINCE retiring from the New York Fire Department, I have had many years of close personal contact with thousands of volunteer firemen, and therefore I feel justified in the contentions set forth herein. The unselfish service rendered by these men is recognized by the public in a way, it is true, but not to the extent deserved. The enthusiasm of the volunteer in many instances has blinded him to the outstanding weaknesses of his organization's set-up. Chief among these is the method of selection of officers, especially the chief of department.

Chief Deasy is particularly well fitted to discuss the subject of tenure of office for Volunteer Fire Chiefs. His wide experience in training volunteer departments, while serving as chief instructor of the New York State Firemen's Training Program, and his years of work as an officer of the world's largest fire department have given him a clear picture of the requirements of an efficient fire fighting organization.

In this article Chief Deasy points out the wisdom of keeping a qualified man at the head of a volunteer department. His arguments are sound because they have the foundation of experience.

Retention of Chief Necessary During Wartime

The time-worn and outmoded practice of selecting a new volunteer chief every one or two years is not conducive to efficiency. In the dim distant past, when social and similar diversions were outstanding attractions associated with membership in a volunteer fire department, the changing of chiefs every year or two may have had some justification. Modern industrial processing, increased problems created by and attendant upon the use of chemicals, intricacies of modern construction, use of chemicals for control of fire, installation of high powered and costly fire apparatus, and modern efficient directions of the operations of the department at fires demand that fire chiefs, regardless of whether they are paid or volunteer, have a well versed knowledge of all the factors outlined. This knowledge is gained not only from books, but from actual field experience. Then again, today as never before, a situation arises where a volunteer department is the sole medium of protection in areas where tremendous war production is present. These conditions demand from the local fire chief the utmost ability to prevent the start of fires, or when they occur, to control them with a minimum of loss and without stopping production.

To illustrate this point: the writer has often been invited to address volunteer groups who are changing chiefs under the one or two-year change-over practice. The outgoing chief is eulogized to the skies as to his abilities. Such terms as "the best ever, losses during his regime have been brought to the minimum, fires confined to the place of origin, modern apparatus and other equipment introduced into the department through his efforts, fire prevention activities intensified and indicated by the reduction of the number of fires, etc." In other words, he has proven his ability by study and actual experience. Then we are introduced to the new chief without any knowledge of his ability. He has to go through a period of trial and error before he can prove his ability. Does it not seem unwise to throw the pilot overboard when it has been conceded that he has done a good job and then entrust the ship to a new, untried, pilot? That's the situation today in a majority of volunteer fire departments. Listening in, as I have often done, at these annual affairs, the question arises in my mind: "If the outgoing chief is as good as the toastmaster says he is, then why in the world are you getting rid of him? Certainly there is little incentive for a chief to devote his every effort for the improvement of his department, when in the back of his mind there is the knowledge that he will be replaced at the end of one or two years. The writer has pointed out before many convention gatherings and similar meetings that this weakness in the organization of volunteer fire departments must be corrected.

In the paid fire departments of the United States, in the Army and Navy, promotions are made on the basis of merit. No fraternal, social, political or religious conditions enter into the determination of a man's ability. Where at all possible, examinations should be given to determine the ability of the person who is to direct fire department activities. Another qualification should be added: that is that the chief who is eligible should hold a certificate or diploma from a recognized fire training school if there is such a school within travelling distance of the department in question.

Should the argument for support of changing chiefs be the threadbare one of "We have have always carried out that program and will continue to do so regardless," that's a slender reed on which to base the selection of an officer in a fire department, on whose judgment and ability depend the control of incipient fires, the introduction of modern practices into the department and the confidence of the men whom he directs.

Experience Necessary

This applies also to the citizens of the community in the area of his protection. The medium of efficiency by which a fire department is rated is not the number of fires it extinguishes, but rather by the fires it prevents from starting, and when they do start, the minimum damage resulting. This is a job for an experienced man; an intelligent man who has kept abreast of the times and who, by actual experience, has gained an understanding of what he is up against and the solution of the problems affecting the operations of his department.

Physical qualifications must also be considered. It is pathetic to witness an aged, infirm chief directing operations of a department at a fire, or one who has the unchangeable conviction that the old methods are the best. The latter might be likened to the vast army of arm chair generals and typewriter admirals who in many instances have proven that they are behind the times. A fire chief should

be active mentally and physically, and not have to delegate his duties to the men under him. He must be able to withstand heat and smoke and the other conditions present at fires. This applies to the paid as well as the volunteer chief.

Is it likely that a fire chief, knowing that he is to be succeeded in a year or two by another man, will give his all to furthering the efficiency of his department? It is very unlikely that he will. All of us are human and consequently subject to human frailities. The weakness in this instance is the blanketing of enthusiasm and effort because of the innate knowledge that all of his activities are but for two years' duration. And perhaps even more important, the volunteer fire chief who is "bounced" will probably be returned to the rank of a private. Liken that, if you will to the army or navy. Can you imagine reducing an admiral or general to the ranks of apprentice seaman or private? Does not the same hold true in some measure for a fire chief?

The usual practice in volunteer fire departments, where they are made up of a number of companies, is to rotate the position of chief among the several companies, in order to give each company a chance to have one of its members a chief. While it might be an honor for each company to have one of its members serve in that capacity, honor is not a substitute for ability.

Active Members Only Should Vote

Many volunteer departments are comprised of active and inactive members. The active members respond to fires and other emergencies while the inactive members attend dances, card games, annual dinners and elections. The point that is brought out here is that only those engaged actively in fighting fires and in performing fire prevention work should be eligible to select the chief of their department. They are the ones who know what the chief is capable of doing; not those who meet him socially on various occasions throughout the year. Voting privileges, where the selection or election of a chief is involved, should be confined to active members.

To sum up the discussion, the writer believes that where the present chief is doing a good job, he should be maintained in that position until such time as his work indicates that he is slipping (either mentally or physically). When such a man is relegated to the ranks, he should be asked to serve as a consultant to the new chief because of his experience.

The age-old axiom never was more strikingly illustrated than in its relation to a fire department: "Fire departments do not stand still; they either advance or retrogress." The fire department whose chief does not demand progressive drills and conferences is not an efficient one. To do this efficiently the chief must be assured of his continuance in office.

If all volunteer departments would give due thought and consideration to the problem of changing chiefs after short intervals of time, it is certain that much of the old "change the chief policy" would be relegated to the red shirt and hand drawn apparatus era.

FALLING WALLS CRUSH FIREMEN IN FIVE-ALARM BOSTON FIRE

Six Killed and Forty-three Others Injured; Trapped Men Saved by Heroic Work of Comrades

CRUSHED beneath falling walls of brick and granite as they fought a five-alarm fire inside the blazing century-old Lyceum Hall at Maverick Square and Henry Street, East Boston, on November 15, six Boston firemen were killed and forty-three others were injured.

The fire itself was an ordinary two-alarm blaze. As they were bringing it under control, the Henry Street side of the age-weakened structure cracked and fell in, carrying many firemen with it in the deluge of blazing timbers, brick and mortar.

The firemen who were killed were on the second floor, working with hose lines. They were smothered under the avalanche.

Outside ten firemen playing water on the blaze from a fire escape were hurled into the street amid a rain of bricks and timbers. Three were left fifty feet in the air on an aerial ladder. Twenty others were on stairways and on the second floor. Still others were blown free from death from window sills. Some were hurled to the sidewalk through two entrances by the force of the falling interior.

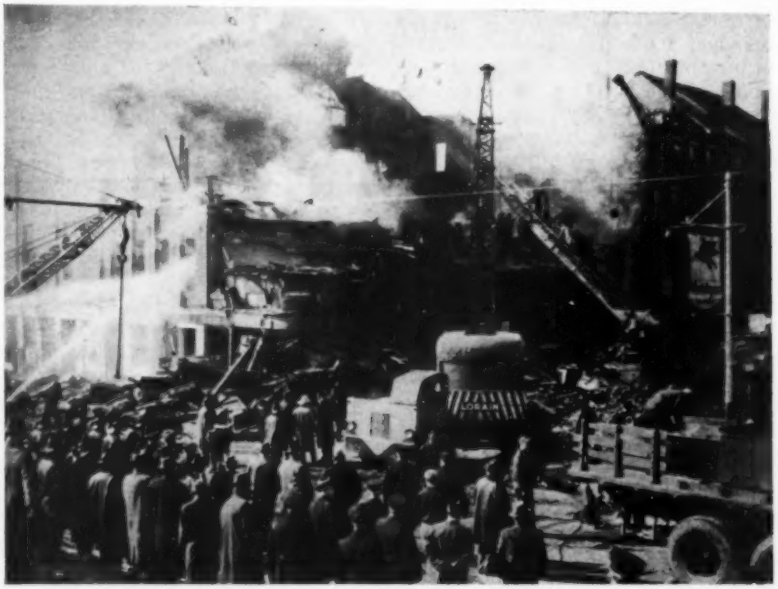
The Boston Fire Department's new aerial ladder truck was standing beside the wall. It was buried in the wreckage and severely damaged. However, it served as the means of escape of twenty-five firemen who were on the second floor of the building.

That more were not killed is due mostly to the gallant action of the firemen, who crawled into holes under the debris to pull injured fellow-firemen to safety.

As the rescue work was proceeding, the flames gained headway. The adjoining building on Henry Street caught fire and some fifty persons were forced to flee.

The fire started in the rear of a restaurant which is on the first floor of the building. An electric appliance caught fire and ignited grease nearby.

A worker in the restaurant ran into the street and called two citizens, who attempted to extinguish the fire. Someone telephoned fire headquarters at 2:26



Collapsing Wall Killed Six Firemen and Covered Ladder Truck

a. m. At 2:27 a. m. the alarm was sounded. Members of the East Boston fire station, only a few blocks away, arrived and quickly laid hose lines.

Included in the rescue squads which arrived to lend assistance were 250 auxiliary policemen, 150 auxiliary firemen, thirty-six members of the Metropolitan

Firemen Bring Bodies Down Ladder from Ruins of Lyceum Hall in East Boston

The second alarm was sounded at 3:04 a. m., when the fire seemed to be gaining headway. At 3:24 a. m., the third alarm was sounded and at 4:20 a. m., five minutes after the wall collapsed, the fourth alarm sounded. The fifth alarm was sounded to bring help to aid in the rescue of the trapped firemen.

Chapter of the American Red Cross, a civilian defense demolition squad, and a number of Coast Guardsmen.

Fire underwriters discovered charred timbers from previous fires within the ruins, and it developed that the building has been twice swept by serious fires, and structurally weakened by alterations

BRIDGEPORT FIRE DEMONSTRATES NEED FOR MORE FIRE EQUIPMENT

Failure to Obtain Vital Equipment and Draft Jeopardize Effective Fire Fighting

By Captain Thomas F. Magner

SEVEN firemen were overcome from smoke and damage figured approximately at $200,000 resulted from a two-alarm blaze that swept the four-story municipally owned Sturdevant and Franklin Buildings, both of brick construction, at Main and State Streets, Bridgeport, Conn., on November 24.

Feeding on stocks of inflammable carpeting and linoleum in the basement of the store occupied by the Laywell Carpet Company, the fire ate through the walls of the Sturdevant Building into the adjoining Franklin Building, an 80 year old structure housing several city offices, which necessitated the sounding of a second alarm by Fire Chief Martin J. Hayden.

As flames consumed household furnishings in the storage cellar of the Laywell Carpet Company, thick, choking smoke spread rapidly throughout the entire building, forcing city workers to flee to the street. Lack of fire stops handicapped the firemen in their work and allowed the flames to spread into the adjoining building.

The interior of the Franklin Block was gutted by flames above the first floor which enveloped the roof. Remodeling of this structure into a two-story building is being planned. Six engine companies were required to combat the fire.

The first alarm was sent in at 8:06 A.M. by a janitor at the Franklin Building who discovered smoke coming from the Laywell Company's cellar. The alarm was received from Box 13, Main and Bank Streets. Engines 1, 3 and 5 with Truck Company 5 and Squad 5, responded. At 8:18 A.M. Engine 2 responded on a special call signal. The second alarm at 10:50 A.M. brought in Engines 4, 7 and Truck Company 6.

Six thousand seven hundred feet of 2½ inch hose and 1,600 feet of 1½ hose were in service. Recall was at 2:48 P.M. 150 firemen battled the flames under the direction of Chief Martin J. Hayden and Asst. Chiefs Arthur T. Platt, Thomas J. O'Leary, Elmer V. FitzGerald and Stanley Sherwood.

"The lives of many residents of our city are imperiled by fire hazards, and the blaze that gutted the over-age Sturdevant and Franklin Buildings is only a sample of what may happen next," declared Fire Chief Hayden in an interview with a newspaperman following the fire.

Fire Department Undermanned

Chief Hayden brought to light conditions known to few localities that have created an increasingly menacing problem when he pointed out:

1.—Other buildings at various points in the city, which also are crumbling fire-traps.

2.—An undermanned Fire Deparment, decimated by draft boards and by experienced men leaving for better jobs in war industries.

3.—The refusal of the War Production Board to permit purchase by this great munitions center of vital equipment necessary for adequate fire protection.

Chief Hayden, in his talk, expressed grave concern over the plight of some localities which are not sufficently protected against fire hazards. He pointed out that the 5,300 apartments in the housing projects are in jeopardy, for in many instances the nearest fire alarm box is more than a mile away.

"I have tried to get more fire boxes and wire from Washington," Chief Hayden declared, "and appealed to everyone short of the President, but no luck." The Chief added that he experienced much woe and considerable trouble obtaining fire hydrants of which there is still quite a shortage.

Nine Killed in Explosion

Eight women and a man burned to death in an explosion and fire at the Rochester Fireworks Company near East Rochester, N. Y., recently. Ten other persons were badly burned.

The explosion which started the fire was comparatively light, but the powder-fed fire swept so rapidly through the long one-story building that only one or two of the more than twenty employees working at the time managed to escape without burns. Seven were burned to death while trapped in the building with no chance to escape.

The building was equipped with fourteen escape doors and the presence of these doors is believed to have prevented a much higher death list.

The explosion was caused shortly after 4:30 p.m., when a tray of powder being carried was either dropped or set down hard enough to cause a friction spark. The explosion was hardly more than a dull sounding puff, but the resultant fire flashed through the building instantaneously. The fire was confined to the one building, but the ruins were not cooled sufficiently to permit removal of the bodies until three hours later.

INDUSTRIAL PLANT WORKERS TRAINED BY MEMPHIS DEPARTMENT*

Three Weeks of Intensified Training Given to Men Selected by Industrial Companies

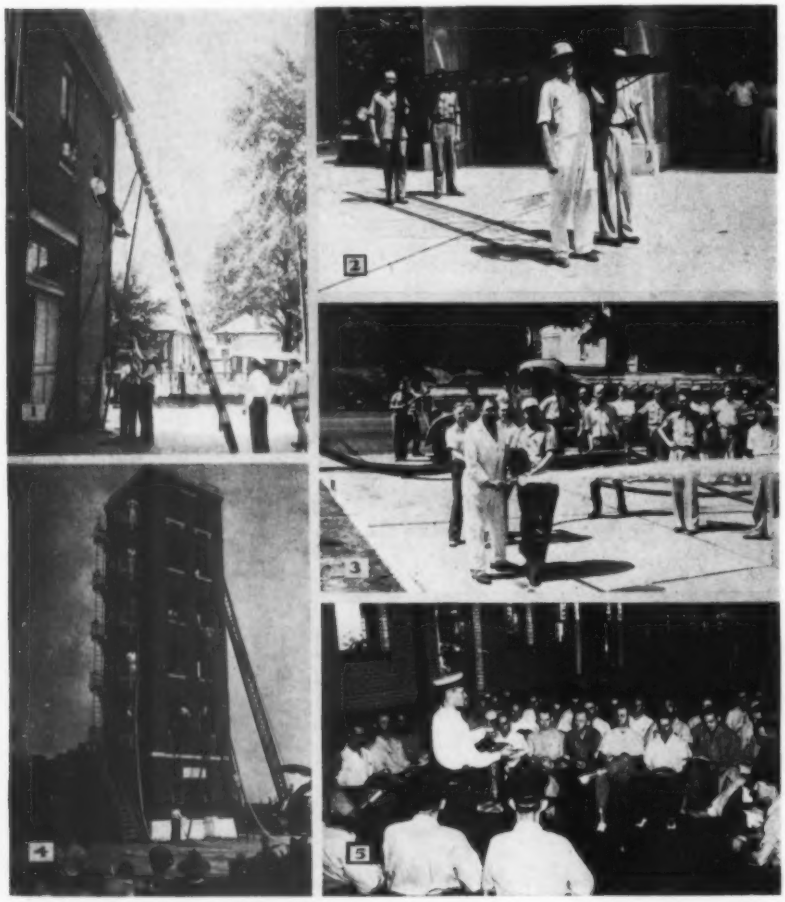
"MEMPHIS on Guard!" is the slogan of the Memphis, Tenn., Fire Department, in its determination to save the city's homes and industrial plants from destruction in event of an enemy air raid.

And the Memphis Fire Department is making that slogan become a reality through the organization and training of industrial fire brigades throughout the city.

Fire Commissioner Joe Boyle, realizing the need for private fire protection, shortly after Pearl Harbor called upon the Fire Department chiefs to work out a program. The program was to be designed to mold closely-knit organizations within each plant that could operate in an emergency with a maximum of efficiency.

The fire chiefs worked out the program and then proceeded to put it into operation, with the goal of setting up in each building, industrial or business, brigades to operate and use the methods of the public fire department.

Each Memphis firm is asked to select a key man from its organization to take the course. This representative attends classes at a fire station Monday through Friday from 9 a. m. to 11 a. m. for three weeks. He is given the full training course, in abbreviated form, taken by a beginner fireman. Upon completion of that training course, the student must pass an examination, covering almost all phases of the course, before he gets the diploma which qualifies him to set up a brigade in his own plant.



Memphis Auxiliary Firemen at Work

1. Firemen demonstrating the lowering of a person by rope; 2. The correct way to carry a ladder; 3. Playing the water upon an imaginary blaze; 4. One group (left) has completed carrying a hose line from the ground to the fifth of the fire tower. Another group of students is carrying a hose line up a fire ladder and through the window of the fourth floor, while one of the instructors (right) shows how to carry an unconscious victim down a rope from the top floor. 5. Classroom study.

After graduating, this representative becomes the "fire chief" for his particular concern. He organizes and instructs, with the aid of a representative from the Fire Department, a brigade in his own plant. In larger buildings or industries, brigades are set up on each floor or in each unit. These brigades hold regular drills to guarantee permanency of their organizations and to keep the city's new "firemen" alert to their responsibilities.

These fire fighting courses are made easier for the layman by a textbook written by Captain John Klinck, covering every phase of fire fighting, controlling incendiary bombs and guarding against sabotage.

Constant reminders are placed before the civilian firemen that one of their main duties will be to protect their own plants and their own homes—not only from incendiary bombs, but from the ordinary fires which cause so much destruction each year.

These industrial brigades are trained in the use of every kind of fire fighting device. They know how to climb ladders and how to lift sections of hose to upper floors without wasting time. They learn how to rescue victims trapped in blazes. They learn how to tie the various rope knots used by firemen, which are so vital in hoisting equipment to upper floors or in rescuing victims. They learn the hundred and one things so vital in fighting fires.

The men know how to handle incendiary bombs, and if a fire breaks out in their own homes, they'll all know how to handle that, too.

*From an article by W. A. Copeland in the September 4 issue of the "Memphis Press-Scimitar." Photos are also used through the courtesy of the "Press-Scimitar."

Ferryboat Fire

It was like a flashback to the "good old days" recently in San Francisco when the crew of the ferryboat Santa Clara, recently installed on the run from the city to Marinship (Bechtel's shipyard at Sausalito) after being tied up for more than a year, discovered a fire aboard.

The fire apparently started from a leaky oil fuel line as the crew got up steam for the first run. They extinguished it before the David Scannell, city fireboat, arrived. Damage was under $100.

The ferries were taken out of service about a year or so ago because the Bay and Golden Gate Bridges offered speedier transbay service.

BOB GREENOCK.

Itinerant Fire Instructors Wanted

Itinerant fire instructors for volunteer fire departments in Virginia are needed by the League of Virginia Municipalities. The salary will be in the neighborhood of $200 a month plus travel and maintenance expense while on the road. The job would consist chiefly of contacting volunteer fire department to conduct classes about three hours nightly, and to do certain fire inspection work during the afternoon.

Any one interested in such a position should contact Mr. Harold I. Baumes, Executive Secretary, League of Virginia Municipalities, Travelers Building, Richmond, Virginia.

The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FIRE PROTECTION CLASSES FOR INDUSTRIAL PLANT WATCHMEN

THE discussion in this round table is a continuation of that which appeared in the November issue of FIRE ENGINEERING on the training of industrial plant watchmen.

The general response from our readers made it necessary to carry the discussion over into this month's issue.

Readers are invited to send in their comments on this subject or on next month's topic, which appears in the box on the following page. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

HERE IS THE PROBLEM

Are industrial plant watchmen in your city given a course of training in fire protection and related subjects?

If so, under whose auspices is the course conducted?

What does the course include?

Do the industries cooperate willingly in having their watchmen attend?

What, in your opinion, are the benefits of such a course?

Discussion of the Topic

Ethan B. Wilson, Battalion Chief,, Los Angeles, Cal.: The Los Angeles Fire Department gives training to industrial plant watchmen. Realizing the need in this field, a thorough and up-to-the-minute course in "The Watchman's Responsibility in Civil Defense" was given. As of March 1 of this year, we had instructed 840 men, 500 of them receiving certificates.

The course was conducted by myself under the supervision of the Training Division of the Fire Department.

We planned the course so that each of its three sessions is a separate unit and attendance to any three consecutive lessons would qualify for proper completion. The lessons were kept interesting by the use of slides, chalk talks, cut-away fire extinguishers, fire boxes, and an actual demonstration on the stage of the proper method of fire extinguishment. Mimeographed sheets on the instruction were given to all attending, and included the following: Lesson 1, "The Facts"; Lesson 2, "Facilities Available"; and Lesson 3, "Fire and Action Taken."

The industries cooperated very well, and were notified by letter of the completion of the course by any of their personnel, emphasizing the fact that in the course we had stressed "planned action" and the giving of ones best in watch service.

Benefits of such a course are twofold: First, better watch service and fewer fires, and second, a spirit of understanding and cooperation in fire prevention and protection by the industries.

Clarence Schlansky, Chief, Miami, Ariz.: The W. A. Bechtel Construction Defense Plant is located in our city. They employ many watchmen or guards who are given a course in chemical warfare by their chief, Glen C. Bodell.

This course includes the various methods of handling the various types of bombs and the handling of the various types of gases and their decontamination. Their chief also gives them a course in police work.

The Miami Copper Company had their key men attend the Chemical Warfare School conducted by our department. These key men in turn are instructing the employees of the company.

The various companies have cooperated to the fullest extent. To my way of thinking this is very beneficial to this community and will show that we are fully prepared if the need come.

L. M. Funk, Chief, Dallas, Tex.: Industrial plant watchmen are given a course of training in fire protection by the Dallas Fire Department. The course includes general fire prevention inspection and procedure, reporting and correction of special hazards, the procedure for calling the fire department and assisting in the extinguishing of the fire when the department arrives.

About seventy-five of the industrial plants in the city cooperate with us.

The advantages of such a program are many. There are fewer fires in plants where watchmen have had the proper training. We have also found better cooperation in getting hazards corrected.

Charles DeVleeschower, Chief, South Bend, Ind.: Industrial plant watchmen in this city are given a training course in fire protection. This course was started in 1939 by Mr. Granger of the Bendix plant. All watchmen in the larger plants have taken this training.

All of our plants have fire chiefs or safety men. This course is conducted by them. The fire department instructors assist in these classes.

The course of instruction includes the sending in of alarms; use of extinguishers; use of ropes, ladders, forcible entry tools, etc. The textbooks which are used are "Employee Organization for Fire Safety" published by the N. F. P. A. and "Safeguarding Industry" by Mr. W. E. Mallalieu of the National Board of Fire Underwriters.

All industries cooperate one hundred per cent. The plant chiefs or safety men make certain that the watchmen attend all the meetings.

Fundamentals of watchmen training are like any other kind of work; if you get away from this training it may be difficult to arrive at a definite goal.

Through a school of instruction the watchman can be made to realize more fully the value of his work to the fire department, and that by quickly sending in an alarm he can reduce to a minimum the efforts which the firemen must make to extinguish the fire. In many instances only through such a course of instruction will the watchman understand that his intimate knowledge of the building and its fire equipment will be of great aid to the firemen.

C. C. Killian, Chief, Fort Worth, Tex.: As a general rule, courses in fire protection are conducted by the plants at their pleasure. These cover fire prevention and police work. Those plants having this training cooperate very well with the fire department.

It is my opinion that much benefit can be obtained if all plants could carry on this training.

C. C. Styron, Chief, Atlanta, Ga.: Industrial plant watchmen in our city are urged to attend the annual three-day session of the Georgia State Fire College held here. But very few of them do so. At this school all phases of fire protection and fire fighting are cov-

"ALL-OUT

Making full use of the advantages of the four-wheel-drive principle, experienced FWD fire truck engineers and skilled FWD production specialists make every FWD fire truck "every inch a fire fighter"!

START is faster, because all four wheels grip the road, together! . . . full power ahead is assured. The response is immediate . . . no hesitation, no compromise with road conditions. When you want to go, you GO with an FWD!

TRAVEL is faster, because *power* is converted to speed with highest known operating efficiency, through all four wheels . . . and traction is so sure-footed that you don't lose time slowing down for many curves or ordinary driving hazards.

SAFETY is greater, because power distributio all four wheels provides remarkable skid-con . . . even on sleek ice. Tests prove FWD's ar least 50% less likely to skid . . . and posi steering control is assured.

STOPS are quicker, safer . . . because of su braking on all four wheels.

ENGINEERING of the complete fire truck (not m ly the chassis alone) results in proper bala greater power, more all-around efficiency, rugg ness, speed and safety . . . all inter-related, as t should be, for defense against fire.

LESS SKIDDING — powered steering traction holds front wheels to direction of turns.

FWD powered front wheel traction always in direction steered — minimizes skidding.

Steering and propelling force opposed with rear drive — encourages skids.

The propelling force to the front axle of the FWD is always in the same direction in which the truck is steered minimizing skidding and giving more positive steering control. Skidding tests conducted on ice show 50% less skidding due to powered front axle alone

EASIER TO HANDLE AT HIGH SPEED properly balanced

Positive driver control at high speed is a distinct feature of FWD design due to its properly balanced basic construction. Balanced weight distribution makes the truck handle perfectly in any emergency. The added weight on the front axle is used in powered traction for greater safety and increased performance.

FASTER GET-A-W

ONLY THE FWD FOUR-WHEEL-DRIVE PRINCIPLE PROVIDE

...FWD's ARE "UP FRONT" IN FIRE DEFENSE AT ITS BEST!

POWER — speed — traction — safety... modern FWD fire-fighting trucks are "up front" in all it takes for FIRE DEFENSE in any community.

UP FRONT in ability to respond instantly to the "fire alert"... UP FRONT in speed that knocks off precious seconds in rushing to the fire zone... UP FRONT in power that "levels" the steepest grades and knows no need for slackening speed... UP FRONT with its four-wheel-drive traction to negotiate heavy snow or mud... with uniform grip on every wheel for surefooted safety at fire-run speed, even on wet-est, slippery-est pavements!

Whatever the Fire Defense emergency may be, FWD apparatus has what you need to fight and win, against fire odds of all sorts.

Those two DRIVING AXLES that deliver *powered traction* to *all four* wheels, are the two big reasons why FWD's can bring firemen and apparatus to the fire faster, safer, surer... even in toughest weather or road conditions that would bog down any less capable equipment.

UTOWER TO ALL FOUR WHEELS..

SPEEDS FWD's TO FIRES *Faster, Safely!*

Every Fire Truck Is Valuable to the War Effort...
Get the Most in Service Through Proper Maintenance

Keeping your fire apparatus in condition — with the least time out and without major troubles — is mostly a matter of truck maintenance — knowing what to do and when and how to do it. Write FWD for complete information on the best methods in preventive maintenance — the periodic and regular attention that keeps fire trucks working as well as conserves tires, gas, oil, replacements.

Write for literature.

THE FOUR WHEEL DRIVE AUTO CO., Clintonville, Wis., U.S.A.

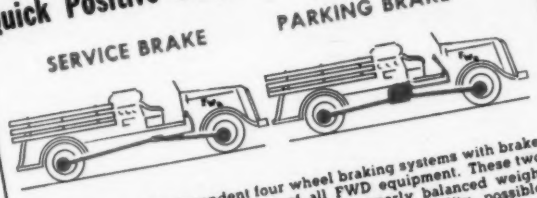
Canadian Factory: KITCHENER, ONTARIO

our wheels grip oad for the run.

on all four wheels makes e of all the engine power celeration—Slippery streets ordinarily would cause wheel and delay do not present rds. All the weight of the ck and its load are converted o powered traction for maxim performance. Often only a ction of the engine's full per- rmance is utilized when trac- on is dependent on only one le of a truck.

Quick Positive Stops for Any Emergency

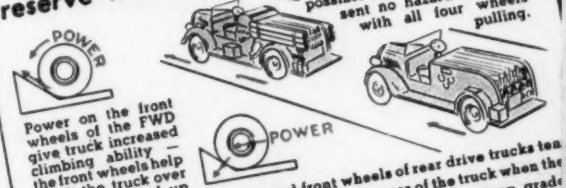
SERVICE BRAKE PARKING BRAKE



Two separate and independent four wheel braking systems with brake drums on each wheel are a feature of all FWD equipment. These two super braking systems, combined with a properly balanced weight distribution, provide the most effective braking ability possible.

GREATER HILL-CLIMBING ABILITY — reserve traction with four-wheel-drive

Steep or slippery grades impossible to other vehicles present no hazard for FWD with all four wheels pulling.



Power on the front wheels of the FWD give truck increased climbing ability — the front wheels help to lift the truck over obstructions and up steep grades.

Non-powered front wheels of rear drive trucks tend to block the forward progress of the truck when they meet an obstruction or in climbing steep grades.

DESE OUTSTANDING SAFETY AND PERFORMANCE FEATURES

ered. To date, there is not much enthusiasm.

Every plant watchman educated in fire prevention and fire protection would mean virtually a fire inspector in his plant. Fire hazards would be minimized. Obstructions to effective and efficient work by the city fire department would be eliminated to a great extent. Their auxiliary fire fighting equipment would be better supervised and maintained. All in all, I would say that plant fires would be fewer and smaller.

C. M. Johnson, Chief, Knoxville, Tenn.: We do not at the present time have a training course for industrial plant watchmen, but I would like to tell the field what we do have.

We have a Specail Fire Marshal's Division which was organized in April, 1941. This organization meets once a month. We have about fifty of the larger industrial and mercantile establishments of our city enrolled as members. We have about seventy-five to ninety persons enrolled as members.

At our monthly meetings various phases of fire prevention are discussed. We have some outstanding speaker who discusses the problem at hand and then a general discussion is held.

We have had about eighteen of these monthly meetings so far. Interest in the organization has been high. We have the cooperation of the Federal Bureau of Investigation, the Tennessee Inspection Bureau and the State Fire Marshal's Office. The training of watchmen has been discussed on several occasions.

Our members are for the most part heads of their respective organizations, such as personnel men, safety directors, etc. They receive our instructions, take part in the discussions and pass the information on to the workers in their stores and plants.

On May 28 and 29 of this year we had a two-day short course at the University of Tennesse on Plant Protection. The course was sponsored by the OCD and the University. We had around 300 enrolled for the course.

We have had excellent cooperation from all persons who should be interested in this sort of thing. Of course, the value of a training course, such as you suggest, would be of immeasurable value to any fire department.

We have found in our work that a great many men who have been employed as watchmen did not know how to turn in a fire alarm and what to do after they had turned the alarm in.

We have taken steps to rectify all these things and to instruct them as to the proper procedure.

Earl A. Traeger, Chief, Minneapolis, Minn.: During the last two or three years we have had several schools for watchmen employed in industrial and mercantile plants. These schools trained the watchmen in fire prevention, what to do in case of fire, and the proper handling and use of first aid fire appliances. These schools were held prior to the entry of the United States into the present war. Following the declaration of war we deemed it advisable to establish fire brigades in the various industrial plants and mercantile establishments in the city.

The fire brigades include watchmen, plant guards and personnel detailed to act in the capacity of firemen. They are trained under the auspices of the Fire Department at the training school.

The course includes training in fire prevention, in the use and handling of first aid fire appliances, training in the proper method of extinguishing incendiary bombs. The course consists of three hours for each employee.

Prior to the United States entering the war we experienced some difficulty in convincing a few of the industrial plants of the necessity of proper training for their watchmen. This was only true in a few cases and most of the companies were glad to have their watchmen attend these schools. However, following our entry into the war this unwillingness, on the part of a few, has disappeared and now they are asking our assistance in the proper training of watchmen, guards and plant firemen.

The benefits of a course of training, such as we have been giving, to the watchmen, guards and plant firemen cannot be overestimated. Should we be subjected to aerial attacks with incendiary bombs, we will need the assistance of these groups in combating the resultant fires. The training received during this emergency by the personnel of these industrial and commercial plants, will carry over into a peacetime organization that will render valuable service in eliminating fire hazards and in controlling fires that may occur in industry.

Joseph A. Kirby, Chief, Dayton, Ohio: Industrial plant watchmen in a majority of the plants in our city are given a course in fire protection. This is under the auspices of the Fire Department.

The course includes the stationing, operation and care of all extinguishing agents; how to notify the fire department in case of fire. They are taught to be constantly on the alert for fire hazards such as blocked exists, etc. They are made familiar with standpipe valves, hose racks, sprinkler systems and all that they entail so as to function properly.

The industries cooperate with few exceptions with the Fire Department in this work.

The course is, in my mind, very beneficial and goes a long way to reduce the fire losses as well as lessen

(*Continued on page 773*)

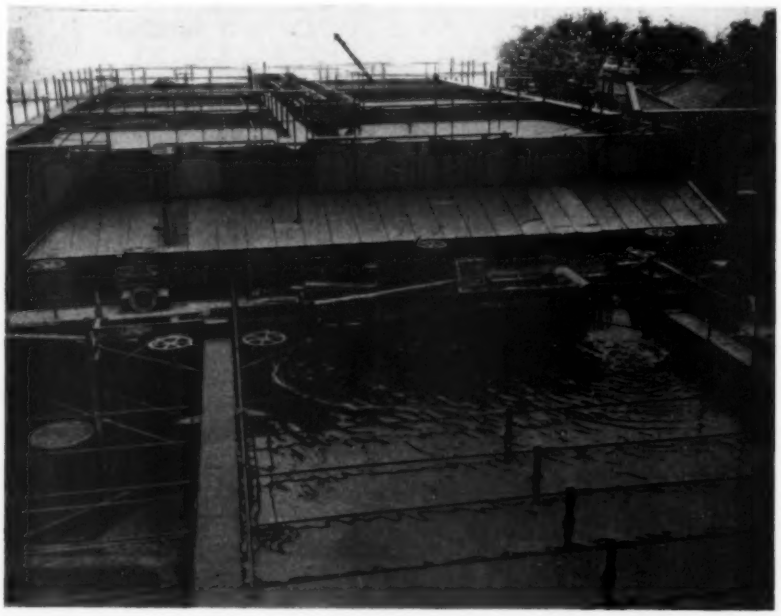
HERE IS THE PROBLEM FOR THE NEXT ISSUE

1. What protection measures does your department carry out to guard the lives of guests at night clubs?

2. Has the Fire Department full authority to order correction of hazardous conditions?

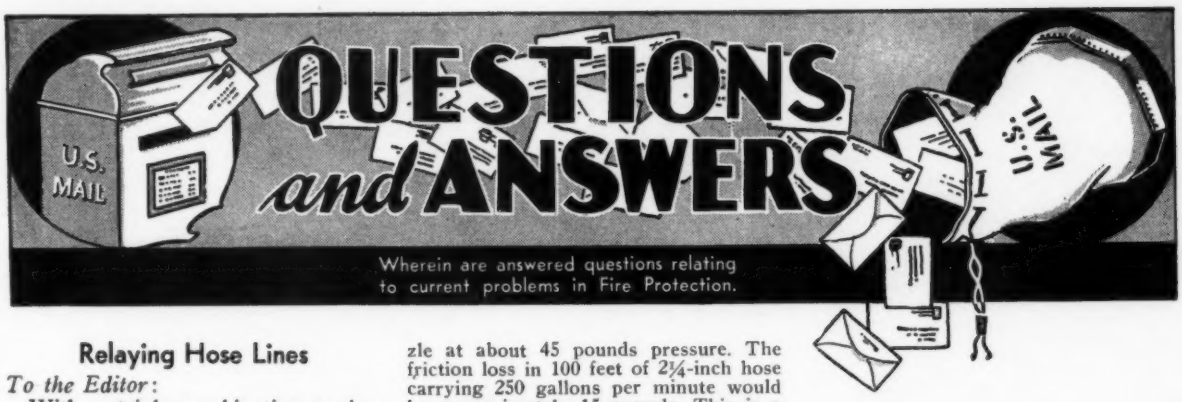
3. How often are fire inspections of these establishments made?

4. Do such inspections include the check-up of inflammability of decorations, etc.



London Is Ready for Another Blitzkrieg

London has taken advantage of a valuable lesson learned during the heavy night raids on the Capital when broken water mains reduced the water supplies and seriously hampered the firemen who were combatting the various fires. Now in addition to the ordinary water supply, there are 180,000,000 gallons of static water stored in the London area alone to reinforce the efforts of the fire fighters should Hitler decide to turn the blitz on again. Tanks have been built in basements of bombed buildings and other spaces cleared especially for the purpose, and many of them can be fed from the river and other sources of supply. In the photograph are shown overhead tanks, capable of holding 630,000 gallons, which are housed on the roof of a building.



Relaying Hose Lines

To the Editor:

With a triple combination engine company we often follow the practice of laying a line off the hydrant and connecting directly into the rear inlet of the pump. This allows us to lay off the pump in front of the fire. I am concerned with the pressure and the volume of water that would be available at the pump. For instance, a 2½-inch hydrant has 40 pounds pressure. Six hundred and fifty feet of 2½-pound hose is laid off and into the pump. What will be the pressure at the pump intake? Will it safely supply one 2½-inch line branched into two 1½-inch lines with ⅝-inch tips?

What is a safe figure to take as friction loss per 50-foot section for a 2½-inch line off a 2½-inch hydrant in such a case, assuming the hydrant has about 40 pounds pressure?

In relaying water from one pumper to another, is there any figure to use in quick calculation to allow for friction loss per 50-foot section?

K. E.

Answer: In the problem you give, you have 40 pounds at the hydrant, which is supposed to supply water through 650 feet of hose to a pumper, which in turn is discharging through two parallel lines of 1¼-inch hose equipped with ⅝-inch nozzles.

Before we can determine whether or not this layout is possible, we must first assume some pressure at the nozzle.

Assuming 40 pounds nozzle pressure at each of the ⅝-inch nozzles, we would have a flow of 73.4 gallons from each, or a total of 146.8 gallons from both.

This quantity of water is flowing per minute through the 650-foot line of 2½-inch hose.

The friction loss in 2¼-inch hose for a flow of 146.8 gallons per minute is approximately 5.9 pounds per hundred feet, or 38.35 pounds for the 650-foot line of hose.

With this friction loss, we have only 1.65 pounds left for taking care of the inlet pressure to the pumper and also for any drop in hydrant pressure which may take place when flow starts. This is not sufficient allowance; therefore a stretch of 650 feet would be too much under these conditions.

An "ordinary" fire stream is usually considered as 250 gallons per minute. This represents a flow from 1⅛-inch nozzle at about 45 pounds pressure. The friction loss in 100 feet of 2¼-inch hose carrying 250 gallons per minute would be approximately 15 pounds. This is a safe figure to use for ordinary layouts where a single line of hose is supplying a 1⅛-inch nozzle.

However, when you have a line branched at the end, then the total flow from the two nozzles must be totalled and this is the flow which passes through the single line feeding them.

Constants for Hose and Nozzles

To the Editor:

The men in my fire company are at odds on the subject of constants and how to find them for nozzles smaller than 1-inch on 1½-inch rubber lined hose. Can you help us?

Answer: By constants, we presume you mean the conversion factors for changing the smaller sizes of hose to 2½-inch.

The conversion factor for changing 1-inch hose to 2½-inch is .011.

The conversion factor for changing 1½-inch to 2½-inch hose is 0.074.

For any size hose not given in published tables of conversion factors, a fairly accurate conversion factor can be secured from the following hydraulics rule: For a given flow, friction loss varies inversely as the fifth power of the diameter of the hose.

Thus to get the conversion factor for a small diameter hose, we multiply this small diameter by itself four times and divide the product so found by the diameter of a 2½-inch line multiplied by itself four times.

For example, suppose we were to find the conversion factor for a 1-inch line of hose. $1 \times 1 \times 1 \times 1 \times 1 = 1$. $2.5 \times 2.5 \times 2.5 \times 2.5 \times 2.5 = 97.656$.

$1 \div 97.656 = .01$ approximately.

The table value for this conversion factor is 0.011.

Or, if we were to find the factor for 1½-inch hose, $1.5 \times 1.5 \times 1.5 \times 1.5 \times 1.5 = 7.59$.

$2.5 \times 2.5 \times 2.5 \times 2.5 \times 2.5 = 97.656$.

$7.59 \div 97.656 = .077$.

The table value for this factor is .074, which shows a comparatively small margin of error by using the formula for determining the conversion factor.

In the above, we state that the fifth power is secured by multiplying a number by itself four times. It should be noted that we actually use the number five times. We take the number to start with and multiply it by itself four times, which results in the use of the number five times to give the fifth power of the number.

If it is the value of "K" you wish, rather than the conversion factors for small hose, these will be found below.

Size Nozzle in Inches	Value of "K" (1½-Inch Hose)
¼	.0084
⅜	.036
½	.104
⅝	.234
¾	.455

Rating Fire Engines

To the Editors

Will you kindly answer the following questions:

What is a crotch pole?

Is it true that a 250-gallon pump is too small to pump effectively through standard 2½-inch hose? If so, what is the smallest size fire pump that is practicable for 2½-inch lines?

Almost invariably when the pumping capacity of an English or Dominion fire engine is given it is stated as 700-1,000, 900-1,200, 300-400, etc., gallons per minute. Just what does this mean?

H. D.

Answer: By "crotch pole" is meant a "stay pole," a pole used for bracing long ladders, placed in position against a building.

A 250-gallon pump is not too small to give an effective stream through a single line of 2½-inch hose, provided the line is not too long.

An engine which will deliver 250 gallons per minute at 120 pounds pressure will give a nozzle pressure of 47 pounds on a 1¼-inch nozzle at the end of a 300-foot line of 2½-inch hose; or it will give 50 pounds nozzle pressure at a 1⅛-inch nozzle on a 400-foot line of 2½-inch hose; or 60 pounds nozzle pressure on a 1-inch nozzle on 650 feet of 2½-inch hose.

All of these streams are considered satisfactory streams for their particular uses.

The present method of rating fire engines, as manufactured in the United States, is to set a certain minimum discharge at the discharge pressure as the size of the engine. For instance, a 750-gallon pumper is expected to discharge a minimum of 750 gallons at 120 pounds pump pressure.

The use of two figures in rating a fire engine is old practice. In the days of the old steam fire engines, the follow-

ing ratings were commonly employed:

Double extra first size, over 1,150 gallons per minute.

Extra first size, 1,100—1,150 gallons per minute.

First size, 900—1,100 gallons per minute.

Second size, 650 to 900 gallons per minute.

Third size, 550 to 650 gallons per minute.

Fourth size, 450 to 550 gallons per minute.

It seems to us that the present method is best in that it gives you the minimum which can be expected from a pumper. If the pumper is able to give you a margin of pressure or discharge, so much the better.

The interpretation of the British or Australian methods of rating is not clear. Apparently any pumper which would pump between 700 and 1,000 gallons per minute would fall in the first classification. This gives considerable leeway of performance.

Carbon Dioxide

To the Editor:

Please give me some information on carbon dioxide. I know oxygen supports combustion, and the molecule of carbon dioxide contains one atom more of oxygen than carbon monoxide, which is very combustible. Please explain why the carbon dioxide will smother fire when it holds more oxygen than carbon monoxide.

What is the meaning of "free oxygen"?

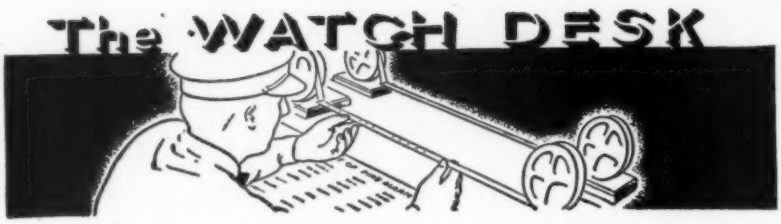
I have in my district some acetone which is stored outside of an acetylene plant. It is stored in 50-gallon drums and is used to dissolve the acetylene when it is compressed into cylinders. I am told it acts as a stabilizer to prevent detonation of the acetylene in handling. In the event of fire in the acetone, what is the extinguishing agent or agents, to be used? F. J. F.

Answer: In carbon dioxide, the carbon and oxygen are very firmly united, and are therefore not readily separated. Hence this gas does not support combustion. It dilutes the atmosphere and acts as an extinguisher in this manner.

With carbon monoxide, however, the union between the carbon and the oxygen is not very firm, and the two elements may be quite readily separated. Thus the combination of these two elements, in their loosely united form, provide the combustible material (carbon) and the gas which supports combustion (oxygen) with the result that the gas will readily burn in the presence of air. It, of course, requires another part of oxygen to complete combustion and result in carbon dioxide.

By free oxygen is meant oxygen which is not in combination with other elements. Air, for example, has oxygen as one of its ingredients, but the oxygen is not combined chemically with any of the other elements, but is free to unite with any material which has an affinity for it.

For extinguishing fires involving acetone, carbon dioxide gas and fog are both effective.



Our inquiring reporter overhauls the firemanic news of the day

Firefighting—Like Charity

Those firemen down on the Eastern Shore of Maryland have been kept pretty busy, right at home. Yessir—lightning struck the Salisbury F D's building, tearing out a portion of the brick front and damaging the interior of the structure. About same time, Centreville (Md.), Vols. scurrying to answer a call, found the blaze right in their own building. Their fire loss was set at $1,000—we dunno the outcome at Salisbury. How's about it, Brother Parks?

* * *

Bulls Bellow As Horn Blows

Another Maryland item, this routed via our New England contrib', tells us about the "bellowing bulls of Hagerstown (Md.)." When the fire horn atop the Western Enterprise fire hall was named "Ferdinand the Bull" there were some sneers and sniffs as to whether the appelation was fitting. Some folks—firemen included—said the siren's "voice" was anything but "bullish." However, the matter was settled when a truck load of bulls passed the fire hall while "Ferdinand" was bellowing. The bulls belowed right back—and how! What we're wondering is how anybody managed to decipher a code out of all the bellowing.

* * *

"Kittens Killoy"

We've heard a lot about **"fire dogs"**—now it's time to chalk up one on the **"fire cats."** This is about Battalion Chief William J. Killoy, New Haven (Conn.) F.D. On a certain morning Chief Killoy was reporting to Asst. Chief Francis Spain at headquarters, when he bethought himself of some material that he wanted down in his car. Chief Spain's driver, Joe Welch, went to get it, and was surprised no end to see something move on a uniform coat, when he opened up the car door. upon inspection, he found a couple of kittens not more than a few hours old wriggling. He hurried back and told Chief Killoy, who couldn't believe it. However, a quick trip back to his quarters and an inspection of the mother cat developed the fact that she had given birth to the kittens sometime in early morning on the coat in the car, and no one knew anything about it until Welch discovered the offspring. And that muh frands, is how Chief William J. Killoy acquired the sobriquet, "Kittens Killoy."

* * *

Answer, Please!

Brother J. H. Britton, Chief, Lavenworth (Kans.) F.D. poses question to us which will give quiz-kidders something to whet their wits on. Sezze he: WHAT IS WORSE THAN A FALSE ALARM TURNED IN ON FIRE ALARM SYSTEM BY A "FIRE MARSHAL"? I will anticipate your editorial staff's proper answer and any heading you may select for insertion of the question. There will be no offense taken if you razz a little."

All right customers, let's give the Chief his money's worth. Shoot in your answer!

* * *

Page Mr. Ripley!

We've heard tell all Californians are given to er, exaggeration—but we understood it was only about their climate. Now we have an item from Chief Roland Bendel, Decoto (Calif.) F.D. which should fill a niche in Ripley's "Believe It or Not" diary. After reading it, all we can say is—it's a good yarn—and mebbe it was the **climate.** . . .

"Here's one for the Watch Desk. The Decoto Fire Department recently was called to fight a fire in a private garage. Upon arrival, found a Plymouth Sedan completely destroyed by fire, parked within a 12' x 20' frame garage. The fire was out; the interior of the garage, while blackened, showed no charring, even two straw hats hanging inside on the wall were not damaged. A window was cracked, but not broken. It is surprising that a fire of intensity sufficient to destroy a car, should burn itself out in a small frame garage from lack of air."

* * *

Hot Off the Tape

A telegram sent to Massillon (O.) from Ft. Wayne (Ind.) 200 miles away notified firemen of the former city of a fire in a house in Walnut Hills, government housing project. . . . Responding to call at Emporia Teachers College (Emporia, Kans.) the Brothers found that blaze was optical illusion. Floodlights striking millions of insects gave them appearance of sparks jumping from burning roof. . . . Mysterious fire in abandoned pool hall, put little town of Dufur (Ore.)—near the Dalles—behind financial eight ball when one-third of business district was wiped out. (thanks Bob Greenock). . . . According to A. Hardy, Baltimore Contrib', Bloomington (Ill.) residents will have to do without calling for F D for every grass-fire as Chief has told 'em to put out their own, to save F D's fuel, rubber and time. . . . Sad was the death of George Hoffman, 46, member of H & L Co. No. 24, New York F. D., who succumbed as result of injuries sustained when it is believed he tried to stop a street fight with sailors during his duty-tour. . . . Attractive 14-year-old Flushing (N. Y.) girl claiming she

(*Continued on page* 761)

Boston Holocaust

(*Continued from page 736*)

lounge room, seating 100 people. No inflammable decoration.

Main dining room seating 400 people.

Old tenement houses next to new lounge room.

Second floor used as dressing room.

Third floor used as help locker room.

This building connects into hallway between lounge and main dining room.

Kitchen in basement, free from grease, hood over stove, under side, clean. Cocktail bar.

Sufficient number of exits.

Sufficient number of extinguishers.

Heat, using fuel oil, two 275-gallon tanks and coal.

Condition Good.

Respectfully submitted,
(signed) Frank J. Linney,
Lieutenant.

When asked about inflammable decorations, Lieut. Linney explained that in the newly remodeled Melody Lounge there were no decorations the day he made his inspection, but there were palm trees on the main dance floor.

Decorations Tested

R.: "What was the condition of those palm trees—did you make a test?"

L: "Yes, I took some of that brown material, struck a match and held it to the stuff. It did not burn."

R: "How many palm trees did you test?"

L: "Oh, I'd say five or six."

R: "You felt that the palms were not inflammable?"

L: "They were treated with fire proofing."

R: "Do you still feel, in the light of what has happened, that conditions there were good?"

L: "Positively."

R: "And there was nothing there that would help spread fire as rapidly as it did spread?"

L: "No, Sir, because I would have noticed it and ordered an abatement of the condition."

(A weather expert subsequently testified that on the day Lieut. Linney made his test of the Palm trees, the humidity was very high, and stated that if the test had been made on a dry day when the humidity was low, it is possible that the palms would have burned and the inspector would have known that they were not properly protected.)

In connection with these "nonflam" palm trees, which would not burn when they were tested by the inspector, was the surprise testimony of John J. Walsh, Director of Boston's Committee on Public Safety, who was in the Grove at the time of the fire. He testified that he saw a puff of smoke and flame near the Piedmont Street entrance and a moment later the fire flashed through the dining room along the ceiling engulfing the palm trees and flashing toward the stage.

Bartender Bradley, working in the Melody Lounge where Inspector Linney had seen no decorations, testified that someone put out a light in a corner of the Lounge, and he directed one of the bar boys to replace it. A moment later, a nearby palm tree blazed up, followed by a flash. Then the whole ceiling burst into flame. He and several others escaped through the kitchen. He added, "Nobody thought of that damn door back of the Lounge Bar. It was fastened, but all you had to do was take the bolt off."

Bar Boy Drops Match

The next witness was sixteen-year-old Stanley Tomaszewski, who had previously stated that he had seen the fire in other parts of the Grove than the Melody Lounge.

Com. Reilly: "You are here as a volunteer. We appreciate all the good things you have done for us. We want you to tell what you saw and did that night."

The youth told how he got a job as a bus boy on Friday and Saturday nights, and then as a bar boy serving drinks. This phase of the evidence is being investigated by State Labor Commissioner James T. Morriarty because it is illegal for minors to work after 10 o'clock at night in a place which serves liquor.

Com. Reilly: "How many exits are there in the Melody Lounge?"

Tomaszewski: "Two. Up the stairs and out through the kitchen."

R: "Tell us what happened."

Greatly shaken, the boy told how he was sent to replace a light bulb that had been unscrewed by a soldier sitting with a girl in dark corner. "I got up on a chair and put in the light bulb. Then I saw there was a fire in the Palm Tree. I tried to pull down the curtains on the ceiling."

R: "Were the leaves of the palm tree afire?"

T: "Yes, they were burning."

R: "Was the room filled?"

T: "It was packed."

R: "Did the drapes on the ceiling catch fire?"

T: "Yes, they were burning. The whole room was ablaze at the top. It came so fast, it was worse than any gasoline fire I ever saw."

R: "Had the light bulb been removed?"

T: "No, Sir, just loosened."

R: "Was there more than one bulb at the palm tree?"

T: "I saw only one near the ceiling."

R: "Did you light a match there?"

T: "Yes."

R: "Why?"

T: "So I would be able to locate the bulb."

R: "What did you do with the match?"

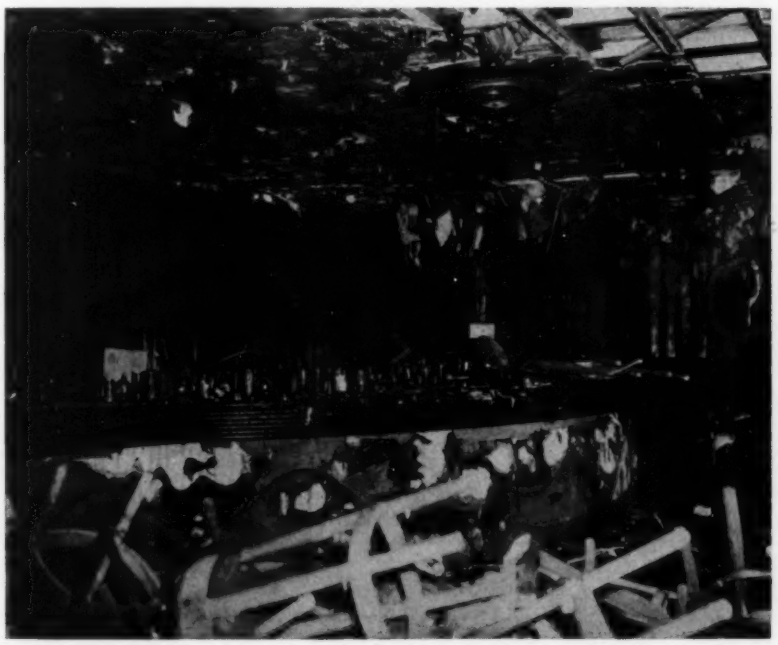
T: "I shook it out, got down, and stepped on it on the floor."

R: "How tall was the palm tree?"

T: "It was from the floor to the ceiling."

The dark, slim, good-looking youth was assured by authorities that he would not be prosecuted for the accidental start of the fire. He testified that when he screwed the bulb into the socket, the light came on and there was no short circuit.

John J. Rizzo, a waiter, caught in the milling crowd at the Terrace, was thrown down the stairs. "When I



Lounge Bar on Broadway End of Building, Showing Debris After Fire

saw the blaze in the main dining room, it was like a forest fire running through the trees."

One man, Daniel M. Weis, cashier at the Grove, testified that he remained in the burning building during the entire fire and emerged with only slight burns and a severe sore throat.

He said he was behind the bar in the Melody Lounge when the flash of fire raced from the palm tree to the ceiling coverings. "It all burned off in about two and a half minutes," he said. "I threw water on the blaze and it was out—in the Lounge in a few minutes."

He then went into the kitchen, stayed there for 5 minutes and after that the fire was over as far as he was concerned. It had raced upstairs to sweep unchecked through the curtains, drapes, and palm grove.

Photographs made in the kitchen, next to the Melody Lounge, showed surprisingly few signs of fire.

Weis testified that when the cigaret smoke got thick he turned on the ventilating system, which was working at the time of the fire.

When questioned about the smell and taste of the smoke, mentioned by many as being different from smoke at ordinary fires, he said, "I got sort of a sweet taste. It made my nose and throat dry."

(Doctors at the hospitals said they believed something more than carbon monoxide had entered the lungs of many of the victims.)

Another waiter told of his inability to open a door from the kitchen, through which many could have escaped, because the key was in the possession of Barnet Welansky, the proprietor, who was in the Massachusetts General Hospital during the fire.

Building Commissioner for Boston, James H. Mooney, testified that he tried to enter the building, got part way in, but had to come out because of the smoke. "I remembered a sliding roof, and found the apparatus that worked it, but there was no power, and I had to get down.

Com. Reilly: "Can you tell us about the structure itself?"

Mooney: "The main building appeared to be built of concrete—of incombustible material."

Mooney said there were four doors on Shawmut Street, one on Broadway, three on Piedmont Street. He also said there were three exits to the Melody Lounge.

Reilly: "Do you think there were sufficient number of exits?"

Mooney: "Yes, I do, for the building."

He then testified that there were four casement windows of large dimension and windows filled with glass blocks, but they were not considered as windows. Asked on what basis he made his statement that there were enough exits, Mooney stated that the Grove had 279¾ inches of total egress in its openings. This, he said, would make the place available for 1,938 people on the basis of the theatre laws.

Reilly: "How do you account for such a loss of life?"

Mooney: "I do not believe people ever reached the means of egress."

Mooney further said, "There were sufficient exits to comply with the law. They were not marked, but they do not have to be under state law, and my department can only follow the law. The law requires only two exits in restaurants. Sprinklers might have reduced the toll of lives, but restaurants do not have to have sprinklers."

Exits

A summary of testimony discloses that there were a total of six exits: (1) The main doorway on Piedmont Street with a revolving door which quickly became jammed as flames poured up from the Melody Lounge in the basement; (2) A door with a "panic lock" that led onto Piedmont Street bolted by a second lock; (3) A door leading from the new cocktail lounge onto Broadway Street, which became blocked by victims; (4) An exit door leading from the main dining hall on Shawmut Street, covered by draperies; (5) A service entrance leading to the kitchen next to the Melody Lounge; (6) An entrance leading to second floor lockers and third floor dressing rooms for employees and performers. Both exits to Shawmut Street were heavily bolted on order from the management and had to be broken down by the firemen. One of them provided the only means of escape from the Melody Lounge other than the flame-enveloped staircase.

Panic Door Locked

The panic door out through the check room was locked. There was a door to the dressing room of the chorus in the rear which was kept closed for the privacy of the girls. That door was broken open by firemen to permit exit to Shawmut Street.

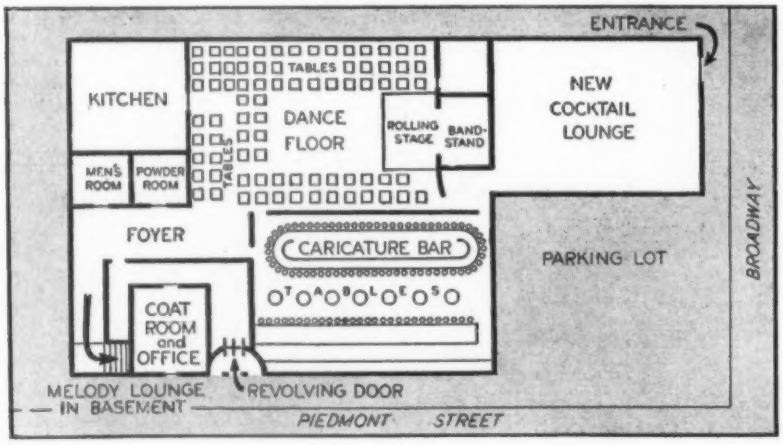
The Grove itself is a one-story structure, covering more than half a block. A large part of the walls are solid, without windows. The Piedmont Street side was a solid cement wall.

The stairway from the Melody Lounge in the basement comes up close to the check room, where the locked "panic" door was located. The kitchen, off the Lounge in the basement, has a narrow door which was not reached at first because the inner door was closed. The two first floor windows had four iron bars across them. These bars were not removed. Upper windows had no bars, and victims jumped from them.

Rubin O. Bodenhorn, describing himself as designer of most of the night clubs in Boston, testified that he first designed the Grove in 1927, and redesigned the Melody Lounge in 1938. He testified that the decorations of the Cocoanut Grove were as follows:

Ceilings—blue satin. Supposed to be flame proofed. Walls—rattan and artificial leather. He had never tested the materials to find out if they were flame proof, and did not

(*Continued on page 763*)

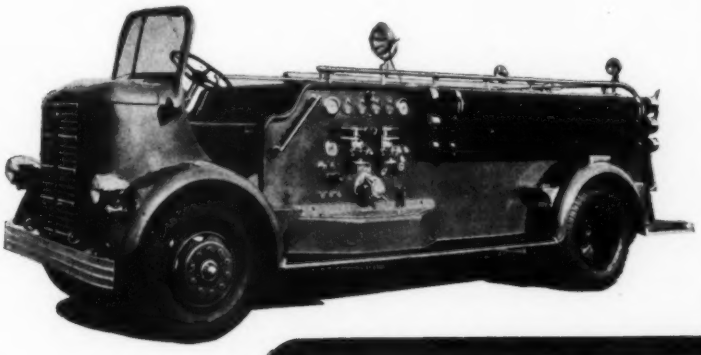


Ground Floor Plan of Cocoanut Grove Night Club

NO ONE KNOWS FIRE APPARATUS

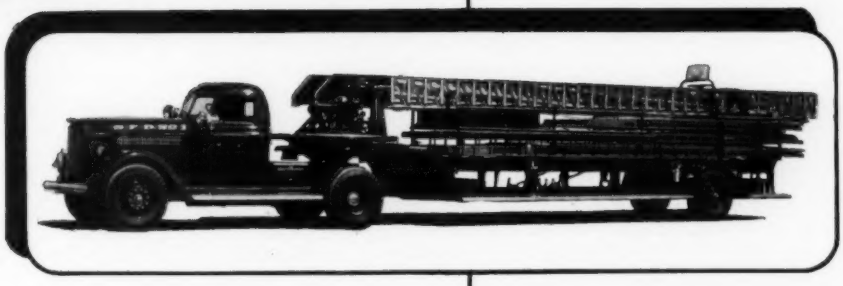
LIKE AN EXPERIENCED FIREMAN!

One after the other, many of the country's best-known fire-fighters are calling for apparatus powered with the famous Hall-Scott gasoline engine. And for just one reason — in practical, front-line fire fighting



ONE OF THE LATEST INNOVATIONS IN EQUIPMENT

The Los Angeles Fire Department recently bought from the Kenworth Motor Truck Corporation of Seattle several units of the type shown at left. Powered with a Hall-Scott 190 h.p. horizontal engine, *mounted amidships and under the floor,* this pumper has an extremely short wheel base — essential in heavy traffic conditions — and a very low center of gravity — ideal for rounding corners at high speed. The pump installed is a 1250 gallon unit, and the overall performance in regard to hill climbing ability and acceleration is phenomenal. It is also available on order in an enclosed cab type.



experience they have found that Hall-Scott powered equipment can be depended upon to give top rank performance.

The Hall-Scott engine is extremely efficient — yet rugged and simple. It is so soundly designed and so carefully built that it will deliver its full horsepower hour after hour if necessary.

When servicing is needed, the Hall-Scott unit-assembly design allows any given unit of the engine to be quickly removed, a substitute unit installed, and the apparatus returned to duty while repairs are made at the bench.

Hall-Scott powered fire apparatus excels in performance — and shows the highest possible records for availability, dependability and low maintenance cost. Their use is rapidly increasing — as one fire-fighter tells another of their many proven advantages.

6-CYLINDER 240 H.P. HALL-SCOTT ENGINE POWERS THIS 100 FOOT AERIAL TRUCK

Compared with all former standards, the performance of this 100 foot aerial truck, built by Peter Pirsch and Sons, of Kenosha, Wisconsin, is remarkable. A simple, rugged 6-cylinder 240 h.p. Hall-Scott engine gives it such splendid acceleration and hill climbing ability that you must see it in actual operation to fully realize its many outstanding superiorities.

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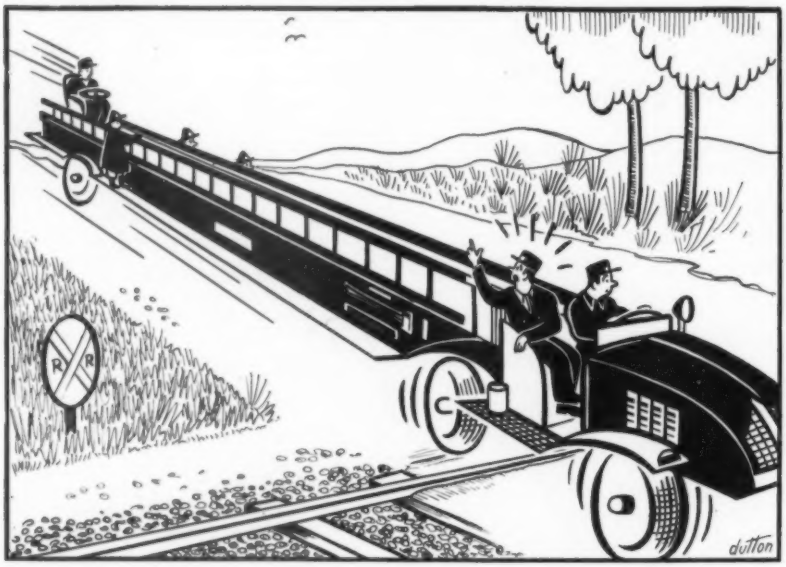
FALSE ALARMS



"Better Step On It Fellers . . . There's a Train Coming!"

Consistent

Jones: "The same thing happens whether my wife takes the dog out walking, or has the car out."

Smith: "How come?"

Jones: "She heads for a telephone pole, either time."

British Sentry: "Halt—Who goes there?"

Soldiers: "British Soldiers."

British Sentry: "Pass British Soldiers."

British Sentry: "Halt—Who goes there?"

Soldiers: "Free French Soldiers."

British Sentry: "Pass Free French Soldiers."

British Sentry: "Halt—Who goes there?"

Soldiers: "Who in hell wants to know?"

British Sentry: "Pass American Soldiers."

Relief

He: "Girlie, I have a confession to make. I'm a married man."

She: "Gawd! You had me frightened. I thought you were going to say this car didn't belong to you."

"Do you think a girl should learn about life before twenty?"

"Gracious, no! That's too large an audience."

When the Customer Is Wrong

A floor walker, tired of his job, gave it up and joined the police force. Several months later, a friend asked him how he liked being a policeman. "Well," he replied, "the pay and hours are good, but what I like the best of all is that the customer is always wrong."

Experienced

A lady who had married a traveling salesman decided to raise chickens. When her husband returned from his trip he asked how the chickens were doing. With pride she answered:

"Fine. I have five hens and two roosters?"

The salesman was puzzled. "I don't understand why you have two roosters with only five hens."

"Well," his wife explained, "I got an extra rooster so the hens would still have one in case the other took a notion to go on the road."

Susan: "Yas'm, I'se getting everything ready for my wedding. Is I happy? Why, ma'am, could anyone be happier than a bride preparing her torso?"

There was a young lady named Astor,
Whose clothes fitted just like a plaster.
When she happened to sneeze
And felt a cold breeze,
She knew she had met with disaster.

First Typist: "So your boss does not break his neck by working."

Second ditto: "No, he breaks his work by necking."

Here lies a pedestrian;
He's as cold as ice.
He jumped only once when
He should have jumped twice.

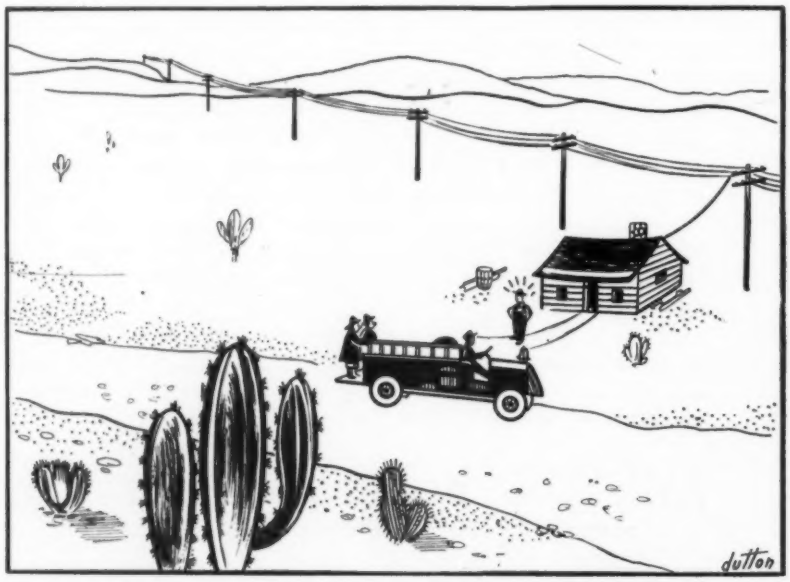
"Did I ever tell you how I tried jiu-jitsu on a burglar?"

"No."

"Well, I got hold of his leg and twisted it over his shoulder. Then I got hold of his arm and twisted it round his neck, and before he knew where he was I was flat on my back."

"How come the black eye?"

"That widow I met last night ain't no widow."



"You Boys Must Be Mistaken About a Call From Here . . . I Haven't Used the Phone All Morning!"

The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

NEW 10% WAR BOND DRIVES SWELL TREASURY HONOR ROLL

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   ⅓ has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

AS of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

TIME IS SHORT. Our country is counting on you to—

"TOP THAT 10% BY NEW YEAR'S"

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save with

War Savings Bonds

This space is a Contribution to America's All-Out War Effort by FIRE ENGINEERING

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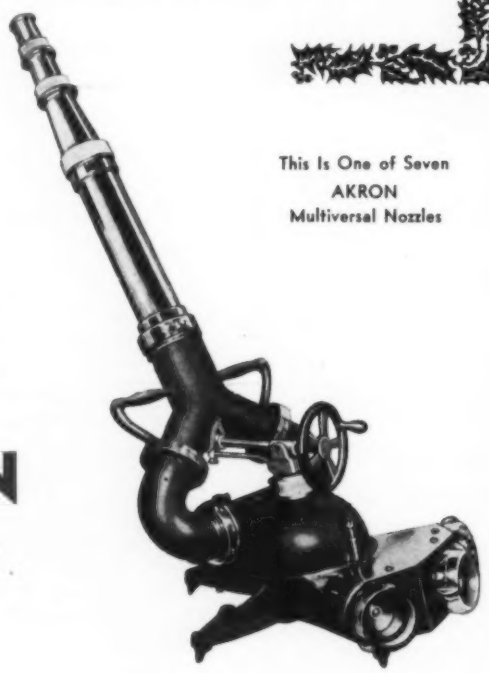
Merry Christmas
and a
Happy New Year
to all our Friends
in the Fire Service

A
MIGHTY
WEAPON
in the War
Against FIRE

AKRON
MULTIVERSAL
NOZZLE



This Is One of Seven
AKRON
Multiversal Nozzles

An Akron Multiversal Nozzle should be first in your department's fire defense. Rugged construction to withstand hard usage insures long life and maximum efficiency at all times.

This is only one of the many famous Akron Brass Products. For more than twenty years the name of Akron has represented leadership in research and development of first line fire fighting equipment.

For a wide range of Akron fire protection appliances see Free Illustrated Catalog No. 40.

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WOOSTER, OHIO

WHAT'S BURNING?

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of November, 1942. These figures, compiled from the telegraphic reports, are based on estimates made at the time and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

Month Ending November 30	Loss in Thousands of dollars
Knox, Pa.—Warehouse of Knox Glass Bottling Co. destroyed	350
Vancouver, B. C.—Overseas Wood Products sawmill destroyed	85
Edmonton, Alta.—Fifty-eight companies damaged by fire in Empire Block in business district	425
Fort Lauderdale, Fla.—Bldg. of H. A. K. Manufacturing Co. shell plant destroyed	50
Smyrna Mills, Me.—Block housing Earl V. Noyes' store, post office and warehouse destroyed	50
Sumter, S. C.—Seed, meal and fertilizer bldgs. of Southern Cotton Oil Co. destroyed	125
Andrews, S. C.—Plant of W. E. Boze Lumber Co. destroyed. Two Seaboard Air Line Railway cars destroyed	50
Sitka, Alaska—Six stores, including drug and jewelry stores and Sitka Cafe destroyed	400
Lemonte, Cal.—San Joaquin Cotton Co. plant destroyed	50
Los Angeles, Cal.—Plant of Los Angeles Sack Co. destroyed	80
Clearing, Ill.—Ten bldgs. of the Trumbull Asphalt Co.	125
Lockport, N. Y.—Moose Lodge Club bldg. and adjacent structure gutted by fire	50
Sherman, Tex.—Williams-Eubank Wholesale Grocery Co. office and stock rooms destroyed	170
San Francisco, Cal.—Bldg. of Anderson-Smith Milling Co. damaged	80
Woodland, Cal.—Sidney N. Epperson Auto Agency destroyed	80
Wolcottville, Ind.—Wolcottville City School destroyed	50
Pendleton, Ore.—Wheat warehouses destroyed with 45,000 bushels of wheat and machinery	60
Marion, S. D.—Three stores destroyed and one damaged	50
Union City, Tenn.—Plant and office of Union City Canning Co. destroyed	65
McKenzie, Tenn.—Cash Economy Wholesale Grocery Warehouse destroyed	100
Kerrville, Tex.—Tivy High School gutted	170
Houston, Tex.—Schulte-United Department Store damaged	300
Little Rock, Ark.—Arkansas Paper Co. and National Biscuit Co. warehouse damaged	60
Cotton Valley, La.—Coyle and De Luxe Hotels destroyed	60
Lovelock, Nev.—Mill on the B. & B. ranch destroyed	50
Kingston, Pa.—Till Bros. Hardware Store and adjoining property damaged	210
Shelbyville, Tenn.—A. J. King Lumber Co. plant destroyed	50
Vancouver, Wash.—Shipyard dormitory housing 320 employees of Henry J. Kaiser yard destroyed	80
Brunswick, Ga.—Universal Laundry & Dry Cleaners, Inc., plant destroyed	145
Pontiac, Mich.—Chase's Dept. store destroyed, adjoining Kresge and Woolworth stores damaged	425
Lake Park, Minn.—Four Peavey elevator bldgs. damaged	50
Syracuse, N. Y.—Clark Trucking Co. garage damaged	100
Braddock, Pa.—Bldg. housing Braddock Free Press and Famous Furniture Co. damaged	425
St. Catherine, Ont.—Several stores damaged in downtown area	50
Brawley, Cal.—One shop, a cafe and two bars destroyed; luncheonette and bar damaged	125
Danville, Ky.—Dwelling of James Lewis destroyed	50
Hoboken, N. J.—Bldg. housing Royal Radio Co. apartments, Washington Tavern and two other bldgs. damaged	50
Scotch Plains, N. J.—Shackamaxon Country Club destroyed	90
Long Beach, N. Y.—Park Casino Hotel destroyed	50

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Bids Wanted, For Sale and Help Wanted, $5 per inch. Position Wanted, $2.50 per inch.

WANTED

Jobbers to sell our Morning Pride Firecoat, with Wing Freedom Sleeves, Chest Protector, Face Protecting Collar, Waterproof-Wool Wristlets. No Dirt Pockets. Made from Protected Rubber Fabric. Write today. Morning Pride Mfg. Co., 1986 Home Ave., Dayton, Ohio.

FOR SALE

600 gallon Seagrave pumper, excellent condition, has 34 x 7 tires, 12 years old. Security Equipment Co., 1550 Princeton Ave., Trenton, N. J.

FOR SALE

1000 Gallon Northern Rotary Pump complete with fittings, 6-inch suctions N.T.S. threads. American La France 600 Gallon Rotary Pump complete, used, in fair condition. Maxim Hose Truck booster tank and pump, late model, new paint, all equipment included. Address: Box No. 35, c/o FIRE ENGINEERING, 24 W. 40th St., New York.

FOR SALE

1922 American LaFrance 600 gallon per minute capacity, Standard Fire Apparatus. New paint job. Motor overhauled. 40 gallon chemical tank. 200 ft. 1" hard rubber hose. Two 10 ft. sections 4½" suction hose with adapters. Two 2½ gallon hand distinguishers. Write or phone M. E. Clark, Chief of Fire Department, Williamsport, Pa.

Canton, Pa.—Bldg. housing post office, bank and dozen business offices destroyed..... 80
West Columbia, S. C.—Warehouse of West Columbia Furniture Co. destroyed..... 50
Snyder, Tex.—S. Fuller Cotton Oil Co. mill destroyed 300
Juneau, Alaska—Uakutat Indian School and teachers' apartments destroyed..... 60
Nashua, N. H. — Bldg. housing Nashua Gummed & Coated Paper Co. damaged... 50
Woodburn, Ore.—Carl's Dairy Farm destroyed 80
Spokane, Wash.—Defense plant Pacific Hide & Fur Co. damaged..... 80
South San Francisco, Cal.—Union stockyards damaged 50
Princess Anne, Md.—Flour mill and carload of grain on Pennsylvania R.R. track destroyed 125
Fort Worth, Tex.—Globe Laboratories destroyed 125
El Centro, Cal.—Half block of business section damaged 110
Huntington, W. Va.—Bldg. housing the Firestone Tire & Auto Supply Co. destroyed.. 80
San Francisco, Cal. — Mission district hotel damaged 60
Bryan, Tex.—Bryan compress and warehouse plant destroyed 125
Pittsfield, Me.—Two-story Peasley Block occupied by hardware store, filling station, garage and beauty parlor on first and apartments on second floor damaged..... 60
Hamilton, N. Y.—Main hangar of Colgate airport destroyed with twenty-one training planes and large amount of equip., including parachutes, classroom equipment, tools and flying suits..... 130
Alverton, Pa.—A. W. Shirer Foundry destroyed 80
Levis, Que. — Garage and two bldgs. destroyed 80
Bridgeport, Conn.—Sturdevant and Franklin Bldgs. damaged 300
Lancaster, Wash. — Elevator of the Grain Growers' Cooperative destroyed..... 170
Toulon, Ill.—Toulon Community High School damaged 80
Lufkin, Tex.—Zeagler Lumber Co. plant destroyed 80
Danville, Ind.—Soybean processing plant, mill and warehouse of Hendricks Co. Farm Bureau destroyed 80
Boston, Mass.—Coconut Grove night club gutted by fire..... 100

FROM THE PRODUCERS OF

INDIAN

CLEAR WATER

Fire Pumps

AS another year draws to a close and we approach the Yuletide season, we extend our greetings and best wishes to the vast army of INDIAN FIRE PUMP users which guards America from coast to coast.

Now is the time to check equipment which will be needed in 1943. Next year will find the duties and responsibilities of fire fighting agencies greater than ever before.

INDIAN FIRE PUMPS will enable your department to handle all manner of class A fires quickly, economically and efficiently.

Let us send prices and full details.

SEND FOR CATALOG

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520 S. W. Pine St., Portland, Ore.

The Conwhit Co.
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Mill and Mine Supply, Inc.
2700 4th Ave., S., Seattle, Wash.

Roy G. Davis Company
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OFFICIALLY APPROVED by the U.S. BUREAU of MINES
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ACME Full-Vision ALL-PURPOSE Gas Mask

The above illustration reveals the wide, FLAT Safety Glass Lenses that enable the firemen to enjoy non-distorted FULL VISION to all sides. This is an exclusive patented feature in all Acme Gas Masks.

With an Acme FULL VISION All-Purpose Gas Mask approved by the U. S. Bureau of Mines, firemen are assured of protection based upon scientific research and testing. The Acme FULL VISION Gas Mask has been subjected to tests in conditions where firemen operate.

The Acme FULL VISION Gas Mask is U. S. Bureau of Mines approved for protection against Carbon Monoxide, Acid Gases, Organic Vapors, and Toxic Smokes encountered in ordinary fires.

Acme FULL VISION Gas Masks now being worn by firemen, have frequently proven their protective abilities under the most extreme conditions. These Masks provide Comfort and Safety that firemen need when operating in buildings congested by fire, smoke and fumes.

Acme FULL VISION Gas Masks are constantly being tested in our laboratories to improve their efficiency and dependability to assure firemen the maximum of safety.

No fireman can afford to wear a gas mask that decreases his breathing efficiency, caused by the rebreathing of exhaled breath.

The Acme FULL VISION Gas Mask excludes exhaled breath through the exclusive use of Dead Air Check Valves which close automatically the moment inhalation has been completed. These Check Valves DO NOT interfere with the incoming purified air, but they do exclude dead air from the Fresh Air Ducts. Rebreathing of exhaled breath frequently causes dizziness and premature fatigue.

All Acme FULL VISION All-Purpose Gas Masks are manufactured with the utmost care and precision. There are no pressure points inside the Acme Mask to cause headaches or other physical discomforts. Only a light tension is necessary to make the Acme FULL VISION Gas Mask "gas-tight" and comfortable.

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Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

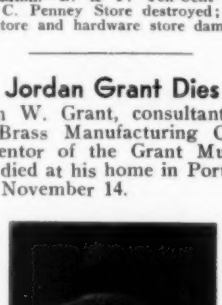
Write for the FACTS.

EDDY VALVE CO., Waterford, N.Y.

Skagway, Alaska—Elks Lodge bldg. and recreational center destroyed..... 50
Mt. Clemens, Mich.—Bldg. housing millinery shop, children's shop, cigar store, tailor shop, office supplies store, dental offices and apartment damaged..... 55
Jonquiere, Que.—Trembly Express damaged 65
Slayton, Minn.—B. & P. Ten-Cent Store and J. C. Penney Store destroyed; Dry-goods store and hardware store damaged. 50

Jordan Grant Dies

Jordan W. Grant, consultant to the Akron Brass Manufacturing Company and inventor of the Grant Multiversal Nozzle, died at his home in Portsmouth, Va., on November 14.



The Late Jordan W. Grant

Mr. Grant was an old timer in the fire field and was known as the "Big Injun."

He started in the fire engine business in the old steamer days and was with the Amoskeag Fire Engine Company of Manchester, N. H. He was also with the Nott Fire Engine Company in Minneapolis, Minn. He spent several years with the Southern Manager of the American LaFrance Company in Atlanta, Ga. After that he had charge of the Norfolk Navy Yard Machine Shop. He served as Master Mechanic at the Portsmouth, Virginia, Fire Department until his retirement.

In 1940 he was appointed as consultant to the staff of the Akron Brass Manufacturing Company of Wooster, Ohio.

Mr. Grant was in his seventy-third year.

Chief Brennan on Extended Leave

Chief Charles J. Brennan of the San Francisco Fire Department has been granted a second 90-day leave of absence by the city because of illness. Chief Brennan was forced to take a leave last June when he suffered a heart attack while directing his men at a multiple alarm blaze. Doctors attributed the attack to overwork and sent him away to rest. He returned to report for work recently, but doctors advised him to rest further before attempting to return to the job. First Assistant Chief Albert J. Sullivan is acting as head of the department during Chief Brennan's leave.

BOB GREENOCK.

Leland Wallace Dead

Leland J. Wallace, a retired captain of the New York Fire Department, died on November 30. At the time of his death Captain Wallace was in charge of fire protection in the New York Life Insurance Company's building in New York City.

The Watch Desk

(*Continued from page 752*)

had some kind of difficulty with a choirmaster so set fire to a Flushing Church. . . . Over 20 were killed in fire resulting when two express trains on B & O collided—hurled a Pullman car into path of freight train. . . . Jerry Daly in "The Chief," says fastest and longest run he ever made to a fire was claimed by Lieut-Commander Harold J. Burke Damage Control Section, Bureau of Ships, U.S.N. and until loaned to Navy, Chief of 11th Division N.Y.F.D.) to have been the airplane flight from Washington to unnamed N. Atlantic point to inspect damage done to U.S.S. Wakefield, which, as you may have read, burned at sea. . . . The Elizabeth (N. J.) Veteran Vol. Firemen's Assn. voted to disband after 41 years existence as 19 remaining charter members decided they were getting too old to attend meetings. . . . Nine firemen of Toronto (Ont.) F.D. were injured in half million dollar fire. . . . Nine N.Y.F.D. Brothers were knocked out in a Brooklyn (N. Y.) fire. . . . Firemen used rifles to drill holes in burning tank cars to release pressure, when 9 cars of a 116-car Erie R.R. train left the rails and burned near Binghamton (N. Y.). . . . Orville Richard Babcock, 29, Wabash (Ind.), went on spree, wrecked house, killed a lamb, stole boat, set a barn afire and was trying to start another fire when he was arrested. He got 2 to 14 years sentence. . . . Curious boy leaned an angle iron against one of Union Pacific R.R. tracks near Snyder (Col.) to see it flipped by train. It flipped, but oil from punctured fuel tanks sprayed train, traveling at 90 m.p.h., which caught fire from spark. Train rolled four miles before it could be stopped—luckily none injured and only outside of cars damaged. . . . Judge James M. Barrett, Bronx (N. Y.) County Court, sentenced Frank McDonald, 45, to 8 months in city prison for setting fire to perambulator in hallway of occupied multiple dwelling. . . .

* * *

Sound Sleeper

Out in Kimberly (Idaho) Blacksmith Bill Kilborn slept soundly while his shop, only 40 feet away, burned to the ground as firemen tried to save it. His house caught fire and the firemen scampered all over the roof, but still Kilborn snoozed on. Eventually, one of the Brothers smashed a window, crawled in awakened Kilborn, and broke the sad news to him.

* * *

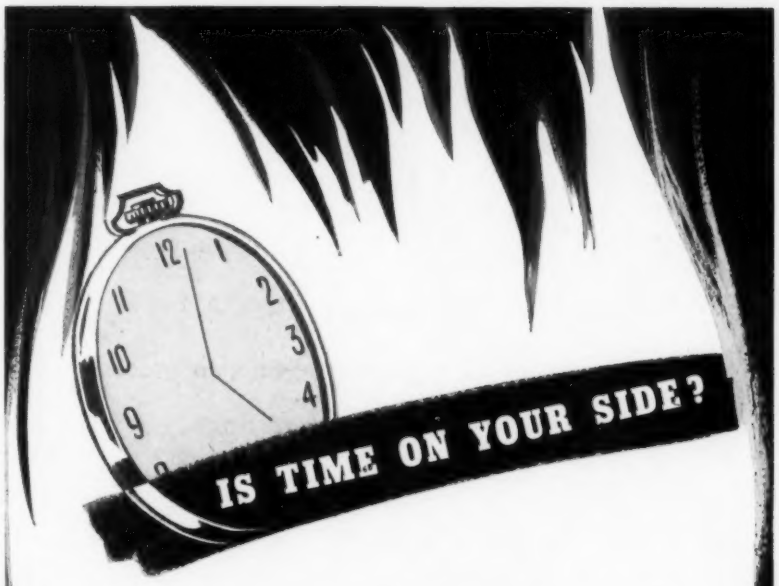
Steam Causes Scare

Broken steam pipe in fireroom of ferry Dixie, in the Patapsco River, near Baltimore (Md.) brought fire and Coast Guard boats to ship's side in a hurry. Clouds of steam billowed from the ferry carrying war workers giving appearance of a disaster. Comd. C. H. Abel, Captain of Port of Baltimore, said **"everything was promptly brought under control"** and no passenger had to be removed. Boat was towed back to dock with its several hundred passengers.

* * *

Hard Times in Long Beach!

Papers of Nov. 5 carried story of the volunteers of the Long Beach (N. Y.) F D who refused to assist in fighting a



More help from your invaluable ally, Time, is what LaBour Fire Trailers bring to any department, large or small. Rugged, compact and highly mobile, LaBours can be brought into action quicker when streets are littered or bridges weakened. Their capacity of 150 GPM at 100 lbs. will deal with most fires or give heavier apparatus time to get there. They can take over when fires are under control, allowing other equipment more time to answer new calls.

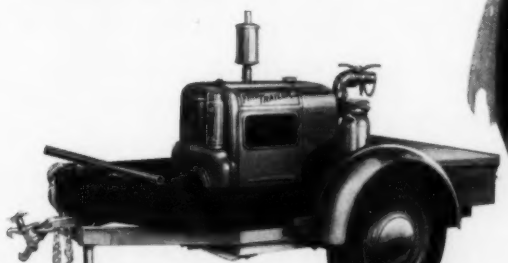
Since they represent only a fraction of the investment needed for standard apparatus, LaBour Fire Trailers can be economically provided in greater numbers, and thus stationed closer to any potential fire. Time saved by this means is vitally important.

Because the LaBour's self-priming centrifugal pump is simplicity itself, less time is required to train auxiliary firemen in its effective use. There's only one moving part in the pump, hence time devoted to maintenance is held to a minimum.

To find out how easy and inexpensive it is to get time on your side with LaBour Fire Trailers, send for Bulletin No. 49 today.

THE LABOUR COMPANY, INC.

ELKHART, INDIANA, U.S.A.



LABOUR FIRE TRAILER

Specify HALE

FIRE PUMPS HALE CONSHOHOCKEN PA

Many Hale Pumps are going into Fire Apparatus of all types, every day, to protect the industries, cities and armed forces of the United States and our Allies.

Write today for the Catalog and Folders on the complete line of Hale Pumps.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

YES! Pacific Portable Pumpers are enlisted for this war. Military demands and priorities curtail vital materials. Our endeavor has always been to render the best in quality and service. Your understanding and consideration of our position in these trying times is greatly appreciated.

Fire Fighting Equipment Division

PACIFIC MARINE SUPPLY COMPANY
SEATTLE, WASHINGTON

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

stubborn blaze in a 90-family apartment, because the Fire Commissioner didn't personally summon them. The fire drove 250 scantily garbed persons to street at 4 a. m., caused considerable damage.

Under a new civil ordinance, the Long Beach Vamps must be called out by the paid Fire Commissioner. Since this wasn't done, says the press, they failed to respond, leaving the entire job of fighting the blaze to the 18 paid men—and the help that was urgently requested of Rockville Center.

While this episode was still rankling in fire circles, another "worker" of a fire in a restaurant and hotel again forced officials to call for out-of-town help from Rockville Center and other communities. In this instance it is reported that only about 5 of the paid men, and practically none of the Vamps, fought the fire.

Masonry Interior Walls Prevent Spread of Incendiary Bomb Fires

The survival of Malta, most bombed city on the face of the earth, was said by S. H. Ingbert, fire resistance expert of the National Bureau of Standards, probably to be due to the fact that buildings there have masonry interior as well as exterior walls, which prevent the spread of fire.

Other incidents in recent warfare indicate the superiority of incombustible fire resistant contruction in preventing excessive fire damage. For example, Madrid, besieged by an attacking force in its outskirts for more than a year, suffered comparatively little from fire, while important parts of Warsaw with masonry-walled buildings having interior wood framing were destroyed by incendiaries dropped from airplanes.

Attacks on the "Old City" portion of London gave similar evidence and on other occasions general conflagrations apparently were prevented by only narrow margins.

Mr. Ingberg pointed out that interior and exterior masonry wall construction has been the general urban practice in Southern Europe for the past few hundred years. While buildings in Malta have collapsed under persistent bombing during the three years that the Germans and Italians have sought to destroy this strong British base, no fires of consequence have been started on the Island.

Mr. Ingberg said that type of building construction is an important factor in preventing the communication of fire from building to building. After disastrous fires during a period of several hundred years in cities of Western Europe, buildings within given distances from others were required to have masonry exterior, or exterior and interior walls. This was found to be effective in preventing sweeping fires where buildings are of moderate size with no large amounts of combustible contents.

He adds, however, that the Baltimore conflagrations of 1904 swept through some 50 city blocks of three to five-story buildings of this type, largely commercial occupancies. The conflagration was stopped on one side by modern fire resistive buildings, which, while damaged or partly burned out, did not communicate fire to the structures beyond them.

Boston Holocaust

(*Continued from page 754*)

know if anyone connected with the Grove had.

He told of elaborate flame proofing in connection with the original intallation of palm trees, cocoanuts and wall coverings, but added that all this needed annual renewal, and the ceilings, an annual fire-proofing treatment. When asked if this had been done, he said he did not know. He felt sure that the fire was not caused by the bus boy's match, and that it did not spread by the decorations. He suspected some wiring break as the cause. Describing the palm trees in the Melody Lounge, he said their lights were concealed in real cocoanuts treated with fireproofing and open at the top and bottom. They had 7½-watt bulbs. He did not know the solution Welansky bought to soak the palms and coacoanuts to make them fireproof, but he had seen them soaked. (James Welansky, manager of the Grove, stated he did not know anything about fireproofing the place.)

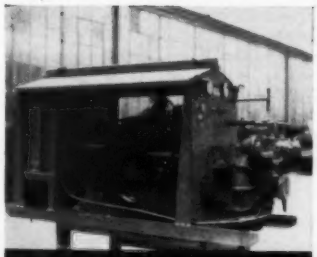
Bodenhorn said further that there was bamboo construction in the lower lounge behind the venetian blinds, all sprayed with flame-proofing. He thought all the leaves in the dining room were new since the originals, but he didn't know whether they were flame proof.

Chemist's Report

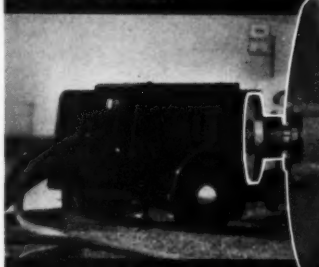
At the request of Fire Commissioner Reilly, Andrew Landini, a chemist for Skinner & Sherman, Inc., Industrial Chemists, made a written report of tests to determine whether various decorations in the Cocoanut Grove were flame resistant. Mr. Landini explained that samples were brought back from the Grove to the laboratory while still wet and were allowed to dry over night before being subjected to the match flame ignition test. He could not state positively from the tests that none of the materials had been treated to render them flame resistant.

Mr. Landini's report stated, in part:

1. Blue fabric from the molding in the Melody Lounge over the palm tree where the fire was supposed to have started when touched with a match burst into fiame instantly and was entirely consumed.
2. Fibrous material wrapped around the trunks of the same imitation palm tree burst into violent flame as a dry Christmas tree or excelsior would do.
3. Brown colored leaves from the same palm in the Melody Lounge burned slowly, but freely.

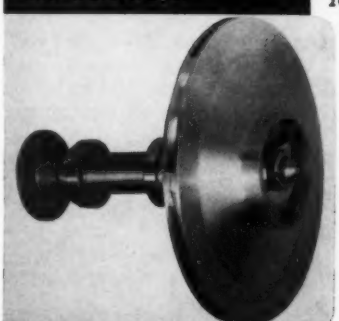


Skid units for general use in fire defense.



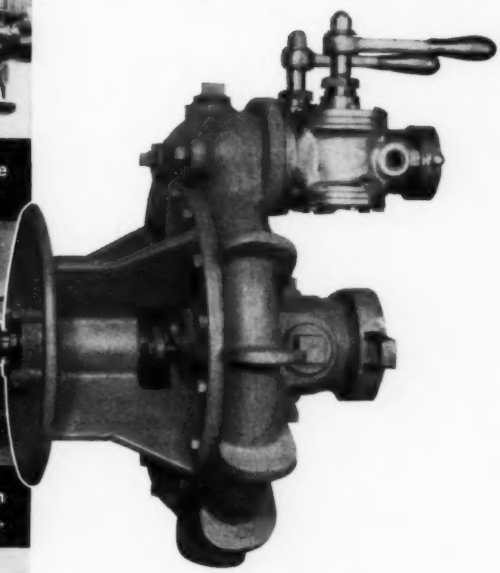
Trailer unit, equipped with WATEROUS Model CT Pump.

Small fire boats, WATEROUS equipped, protect harbors and waterways.



WATEROUS impeller assembly, showing oversize shaft, bronze impeller, two ball bearings which are supported in the pump head for perfect alignment.

Packaged Pumping!



WATEROUS Model CT

CENTRIFUGAL FIRE PUMP

500 G. P. M., O. C. D. Specifications

for Trailers, Skid Units, Fire Boats, etc.

Here's the pump that was specially designed and built to meet the many needs of wartime. It is serving in trailer units . . . at war production plants . . . and in special apparatus of many types. Features of design, typical of WATEROUS quality, include: **(1) Double Ball-Bearing** mounting of impeller shaft. Bearings are full-shielded, run in oil, and protected against water and sand. **(2) Two Piece Casing** . . . strong, easily aligned, safe and simple. **(3) Positive Exhaust Primer.** . . . . . Wherever you have need for auxiliary pump units, specify WATEROUS and get the advantages of built-in Dependability.

Waterous Dependable

WATEROUS COMPANY, ST. PAUL, MINN.

Remember—

VALVES HYDRANTS

Need Regular INSPECTION

Due to rapidly changing personnel on account of employees going to the Army and Navy, valves and hydrants may now be sometimes in the hands of persons not very familiar with their proper care. We offer the following suggestions:

GATE VALVES

All Gate Valves in water lines should be inspected at least twice per year, more often if possible. Most of these valves stay continuously in open position. Unless inspected, a valve might remain open for a number of years. Then in case of emergency, the valve might be found inoperative. An inspection should consist of opening and closing the valves several times to see that it is in perfect working order, and gland bolts should be tightened if there is any indication of leakage after inspection.

FIRE HYDRANTS

The above suggestions also apply to Fire Hydrants. In addition, Fire Hydrants should be flushed out at least twice per year to remove foreign matter that might collect, thus making the hydrant difficult to operate or might clog nozzle of fire hose.

M&H VALVE
AND FITTINGS COMPANY
ANNISTON, ALABAMA

4. Netting still fastened to the ceiling at the stairway did not catch fire as quickly as the blue fabric of the fibre. It flamed for a short time, then died down and continued to glow.
5. Straw or imitation straw matting from the Piedmont Street side of the Melody Lounge did not ignite readily, but caught fire after a few seconds.
6. The outer surface or coating of the red imitation leather taken from the lower part of the wall in the lobby ignited readily and was consumed quickly before the base fabric showed any evidence of fire. A chemical test showed this coating to be pyroxylin or nitrocellulose. When this coating burned, irritating fumes were given off, believed to be oxides of nitrogen.

Poison Gas Fumes

Medical examiners of Suffolk County stated on December 2nd that "something deadly" in the smoke of the Grove fire had gassed the victims and that pathological evidence will be introduced at the state probe.

Dr. Timothy Leary, one of the examiners, declared, "there is no question that there was something poisonous in that smoke besides carbon monoxide and flame," and added that material has been gathered at the mortuaries and hospitals for presentation before the investigators. (Several patrons of the club during their testimony stated that the smoke was "acid," "not like ordinary smoke" and that it caused watering of the eyes and choking to an unusual degree.)

Night Clubs Closed

Close on the heels of testimony that showed laxity in many directions, the Boston Licensing Board issued a sweeping order that closed fifty-two night clubs and caused the suspension of 1,161 entertainment licenses. The authorities charged with guaranteeing the safety of people in public places dug through the law books to find ordinances and statutes which have been ignored for years by public officials.

After a rigid investigation, many of the places of entertainment have since been reopened.

Illegal Wiring

As the hearing at Fire Headquarters continued, Raymond Baer, Navy Yard worker, testified that he had put in the wiring of the Melody Lounge, and claimed ignorance of the fact that he needed a permit, stating that he and another electrician had planned to apply for a license two days after the fatal fire. Questioned by Bernard B. Whelan, Supt. of the Wire Division of the Fire Dept., regarding his knowledge of electrical devices, Baer confessed that his ignorance would prevent him from getting an electrician's license. He testified further that he had been making electrical installations for three years without getting permits.

Building Inspector Testifies

Theodore Eldracher, Boston Building Inspector, testified that the new cocktail lounge was allowed to open before alterations had been completed. One of the alterations was to have been a metal covered and self-closing fire door between the main dining room and the passageway leading to the new lounge. Testimony showed that the door had not been finished at the time of the fire, and that 100 bodies were found in the lounge to which flames spread from the main dining room.

It was brought out by an insurance inspector that because of the lack of investigators few inspections had been held. Goldsmith H. Conant said, "We try to get into buildings once or twice a year but we are short handed. I went to the Grove on October 8, 17 and 24th but the new lounge was not completed and was unfit for an inspection."

Further questioning by Commissioner Reilly brought out that this particular agent last inspected the Grove in 1936, that he had "intended to inspect the oil burner but never got to it," that the Grove had no night watchman, no automatic alarm system, and no sprinklers.

James Welansky, acting manager of the Grove on behalf of his brother, Barnet, the owner, testified that the building is partly owned and partly leased. He was not posted on what the insurance provisions are. Neither did he know what had been done about fire proofing the place. He said the club would hold about 900 persons and 100 employees. However, Louis Epple, Secretary of the Boston Licensing Board, testified that the Grove's application for food and liquor licenses for 1943 listed only 460 chairs and stools for patrons in a restaurant which on the night of the disaster was unofficially estimated to have held approximately 1,000.

As the inquest conducted by Fire Commissioner Reilly got into the second week, more than 150 witnesses had told their stories and many others were waiting to give their testimony. At State Police headquarters on Commonwealth Avenue more than fifty witnesses had been interrogated.

The holocaust has aroused a storm of indignation never equalled. The public demands a thorough and impartial investigation of the entire matter and swift punishment for those who are found by the courts to be legally responsible for the hundreds of deaths and injuries.

Current opinion is that Attorney General Robert T. Bushnell and District Attorney Wm. J. Foley will seek several indictments on the mass of evidence they are collecting.

(EDITOR'S NOTE: *A review of the findings of the various investigating groups will be given in the January issue of* FIRE ENGINEERING, *if their work has been completed before that time.*)

WAR FARE

Alarms and Discussions Clipped and Culled from the War News of the Day, of Interest to the Fire Service.

Woe to Wardens

Police of Pasadena (Cal.), checking on the dimout, couldn't miss a storage company's window display. It included seven table lamps, all lighted. The cops hurried inside, and found: *Three air raid wardens.*

One, in charge of the establishment, was haled into court.

* * *

The Hypothetical Becomes Real Thing?

Make-believe fire, started by a make-believe incendiary bomb dropped from a make-believe plane over Washington, D. C., one night, lacked nothing but fire and smoke to give it terrifying reality.

Seems that each Wednesday night the Park Police of the District rehearse actual raid scenes, phone in "incedent reports" in realistic fashion. The night in question, a Park Policeman received a sealed envelope containing details of a mythical fire started by "I. B." in Rock Creek Park. As per instructions, he put in a call through the Interior Department for the Park Police Control Center—ordinarily, a routine job. But this time the incident took on decided significance.

"Are you sure it is an incendiary bomb fire?" the officer was asked.

"Yes."

"Is it serious?"

"Yes," said the cop, still following instructions. "A high wind is blowing the fire toward residences."

So, few seconds later, a fire truck and pumper from No. 31 Engine Company and a Scout car from No. 8 were speeding to the scene. The Interior Department then called the FBI, feeling that J. Edgar Hoover oughta know about "I. B.'s" being dropped right in his back yard. FBI agents in turn called the Park Police—and there the error was discovered. Red faces all round!

* * *

Bottles Fire Buildings

The Vichy radio reported that buildings in Haute Vienne Department had been set afire by bottles containing "inflammable" liquid which were dropped, attached to balloons, from "hostile planes." It didn't identify the planes, but the British have been given credit (and "discredit" by the Hun) for use of "bottled incendiaries" over Germany.

* * *

Hot Time in Police Headquarters

In Cranford (N. J.) and overheated furnace flared up at police headquarters, put the police signal box system out of order and set off the local air-raid siren, which yowled and wailed for 20 minutes, calling out reserve police and firemen, air raid wardens and other civilian defense workers.

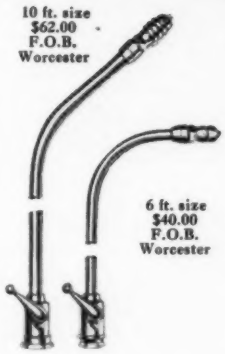
* * *

New Siren Alarm Clock?

Another story of a capricious siren comes from Lakeview (N. Y.), a place very, very proud of its air-raid "waker-upper"—that is, until it was mistakenly turned on at the ungodly hour of 5 a. m., when firemen were called to fight a fire in a blazing unoccupied shack. The

Running *Oil Fire wiped out . . .* *with* ROCKWOOD WaterFOG

30 seconds to wipe up this dangerous running oil fire with WaterFOG



10 ft. size $62.00 F.O.B. Worcester

6 ft. size $40.00 F.O.B. Worcester

Rockwood WaterFOG Applicators

You will find many uses for the handy Rockwood WaterFOG Applicators. Use them singly or in multiples of two or three to quickly clean up large area fires of flammable liquids such as fuel oil, kerosene, mineral spirits, incendiary bombs, etc. Protect storage tanks from ignition by radiant heat. WaterFOG will keep exposed materials cooled below their ignition point. Or use the Applicators to fight fires in confined areas such as cellars. Poke the Applicator thru a window or other opening and watch smoke and flame disappear as WaterFOG cleans up. WaterFOG works just as effectively on ordinary combustibles.

Order from your regular fire equipment distributor

ROCKWOOD SPRINKLER COMPANY

Specialists for 37 years in the Manufacturing and Installation of Fire Protection Equipment

54 HARLOW STREET WORCESTER, MASS.

OUR FIRST DUTY IS CLEAR...

—and we're doing it well!

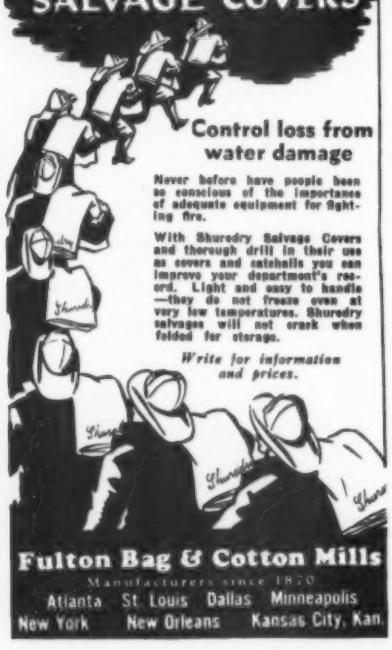
● Our first duty is to our country—we are all in agreement on that.

Right now and for a while to come, we'll be busy supplying Eastman Deck and Deluge Guns, for whatever need Uncle Sam cares to put them—

But—once this scrap is over—we'll be right back on the job of supplying our famous fire fighting guns to the hundreds of fire chiefs who have depended on them for many years.

SAMUEL EASTMAN COMPANY
CONCORD, N. H.

USE Shuredry SALVAGE COVERS



Control loss from water damage

Never before have people been so conscious of the importance of adequate equipment for fighting fire.

With Shuredry Salvage Covers and thorough drill in their use as covers and catchalls you can improve your department's record. Light and easy to handle—they do not freeze even at very low temperatures. Shuredry salvages will not crack when folded for storage.

Write for information and prices.

Fulton Bag & Cotton Mills
Manufacturers since 1870
Atlanta St. Louis Dallas Minneapolis
New York New Orleans Kansas City, Kan.

Fire Equipment with BUILT-IN **DURABILITY**

★

Today's emergency conditions require that the nation's fire service be maintained at peak efficiency at all times.

You can rely on Campbell-Hausfeld equipment to deliver maximum efficiency, for it is designed for extra sturdiness.

The Campbell - Hausfeld line includes fire hose nozzles, wheels, plugs, caps, etc.

We will be glad to send prices on request.

●

The CAMPBELL-HAUSFELD COMPANY
402 Railroad Avenue, Harrison, Ohio

hooter did such a swell job on this occasion that other nearby towns thought an air raid was in progress, and citizens prepared to fight the air-raiders—until the firemen finished their job and turned off the offending wailer.

* * *

Hot Off the Tape

During a blackout in Westchester County (N. Y.) zealous wardens insisted that fireplace firelights be "dimmed," so a householder of Hastings-on-Hudson hung a blanket in front of his fire. Result—a real "incident" and job for the Village's fire-fighters. . . . New methods of camouflaging industrial plants are being studied at Cooper Union, New York City. . . . New York City's auxiliary firemen got a thrill t'other night when, during a practice "alert" to demonstrate their skill, an alarm was received for a real fire in a certain battalion. Papers, next day, showed pumper of a well-known fire company in that battalion, with "auxies" getting ready to board it and riding home on it. What makes the item news is fact that the talented skipper of that engine company had drilled enrollees **never to ride the side of a pumper**—yet the pix shows 'em all over the rig. Howsabout it, Cap'n? . . . 200,000 Ohio wardens were mobilized on anniversary of Pearl Harbor—Dec. 7 in that State's first statewide Civil Defence test. . . . The British gave Turin, Italy a terrible bombing Nov. 20, one group of large bombers alone dropped 54 of the powerful 2-ton "block busters" and 55 tons of incendiaries into a factory section in less than 30 minutes. . . . Fires have broken out in Ploesti (Roumanian) oil fields; more than 1,000 persons, many of them technicians, have been arrested. . . . According to the Washington **Post** a delayed action 50-kilo aerial bomb bearing German markings has been discovered in the rear of a Los Angeles home where an occupant reported hearing a heavy missal strike during an air raid alarm last Feb. 25.

MacDonald Chief at Canadian Pacific Air Lines Plant

Chief A. A. MacDonald, formerly of the Trail, B. C., Fire Department has accepted the position of Fire Chief at the Canadian Pacific Air Lines Overhaul Plant at Greensboro, B. C.

During Chief MacDonald's thirteen years of service as Chief in Trail, the city was awarded the N. F. P. A. Certificate of Merit for fire prevention work for cities of 25,000 poulation for ten years. The city was first in fire prevention work in the Dominion once and tied with other cities twice regardless of population. They also were awarded the Dominion Board of Trade fire prevention shield twice.

Assistant Chief H. H. Miller has been appointed Chief of the Trail Fire Department to succeed Chief MacDonald.

Elected Chief Forty-eighth Time

The office of fire chief appears to be a lifetime job for Albert Volk who at the age of seventy-two has been re-elected chief for the forty-eighth consecutive year. Chief Volk was a member of the Marshall, Minn., Fire Department at the time of its organization in 1890.

Manufacturers' Announcements

Extinguisher Maintenance Important

The maintenance of fire extinguishers which are credited with stopping seventy per cent of all fires is especially important when wartime production, critical materials, plants and manpower are at stake. Many businesses, institutions and civilians will be unable to get new extinguishers of approved types for the duration and consequently must keep their present equipment in good operating condition. To assist in proper maintenance a new folder entitled "Directions for Inspecting, Recharging and Maintaining Portable Fire Extinguishers" may be obtained upon request to the Pyrene Manufacturing Company, Newark, N. J.

Oxygen Inhalators Presented to McKeesport Firemen

Two of the latest type oxygen inhalators manufactured by the Bishinger-Koehler Manufacturing Company of Pittsburgh, Pa., were recently presented to the McKeesport Fire Department by the Lions Club of that city.

Known as "oxygen drinking fountains," the inhalators will be used by McKeesport firemen for "washing out" the lungs of persons exposed to toxic fumes and as an aid to artificial respiration. One inhalator will be installed on each of the city's two ladder trucks.

New Booklet Fights Fire with Fire "Personality"

To give home owners, business men and educators alike dramatically factual evidence of the tremendous losses the nation suffers from ever-present fire hazards and to outline easily followed fire prevention tips to help drastically curtail these losses, The Central Manufacturers' Mutual Insurance Company, Van Wert, Ohio, has published an informative and interesting booklet titled "Confessions of an Old Flame."

By giving fire an entertaining personality, the booklet makes it possible to show vividly but briefly the dual character of fire.

Free copies of "Confessions" may be obtained by writing direct to the Home Office of The Central Manufacturers' Mutual Insurance Company.

October Fire Loss

Fire losses in the United States during October were $22,621,000, according to the estimate given out by the National Board of Fire Underwriters. The estimate is based upon incurred losses reported by member companies of the National Board, plus an allowance for uninsured and unreported losses.

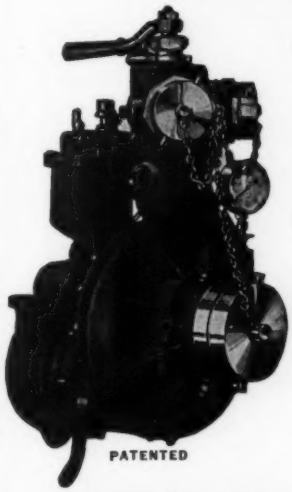
Losses from fire continue to show a decline from those reported a year ago. The October total shows a drop of twenty-seven per cent from that of the same month last year. However, the October, 1941, loss was exceptionally high because of the Fall River rubber conflagration. The October, 1942, loss was eleven per cent higher than that of September, 1942.

Barton Front Mounted

AMERICAN-MARSH PUMPS

Barton-American Midship

FIRE APPARATUS CENTRIFUGAL PUMPS

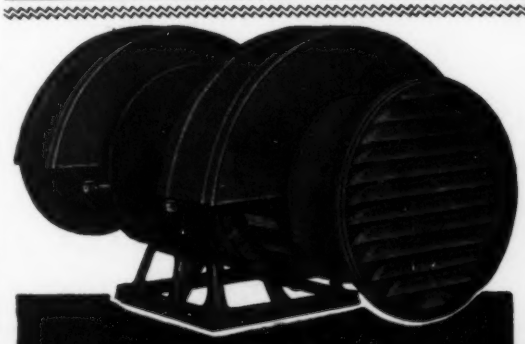


- FRONT MOUNTED FOR EASE OF OPERATION
- AUTOMATIC VACUUM PRIMER
- HIGH PRESSURE AT LOW ENGINE SPEED
- BOOSTER TANK OPERATION WITH TRUCK IN MOTION

Offered in capacities from 250 to 600 G.P.M.

AMERICAN-MARSH PUMPS, INC.

Battle Creek, Michigan, U. S. A.



STERLING MODEL "M"

GENERAL ALARM SIREN

You Can Depend On It *ALWAYS*

An **AIR RAID ALARM,** *TOO!*

The Sterling Model "M" Siren, while primarily built for fire alarm signals, is particularly well adapted for the emergency duties attendant on National Defense. Such a duty is the Air Raid Alarm.

This sturdy public alarm with its shrill, penetrating and distinctive vibrations meets and solves both problems.

Rugged and dependable — it is built to deliver 24-hour service. Its performance has never been equalled by any of the other sirens on the market today!

Write for detailed literature

STERLING SIREN FIRE ALARM CO., Inc.
55 Allen Street Rochester, New York

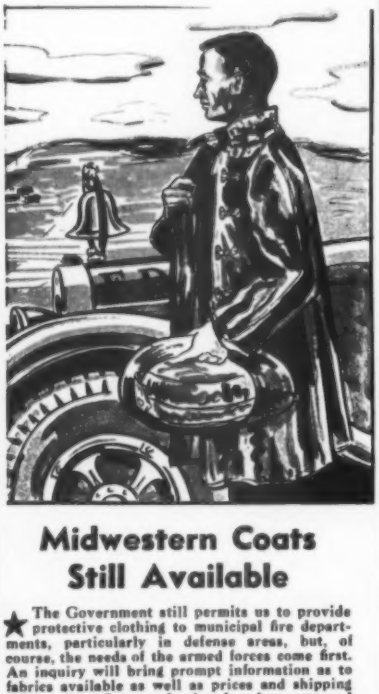
"ALL AMERICAN CHOICE"
INVINCIBLE NOZZLES
PREPARE — PROTECT

Portable equipment is the watchword of today.

Buy—
INVINCIBLE NOZZLES
and enjoy the benefits derived by experience of the pioneers in the nozzle field.

Fig. 403

F. N. McINTIRE BRASS WORKS
Successors to A. J. Morse & Son, Inc.
BOSTON, MASS.
1837 -- 1941



Midwestern Coats Still Available

★ The Government still permits us to provide protective clothing to municipal fire departments, particularly in defense areas, but, of course, the needs of the armed forces come first. An inquiry will bring prompt information as to fabrics available as well as prices and shipping information. Our production has been stepped up and you can still look to Midwestern as the most reliable source for firemen's protective clothing. Model 301 illustrated. Many extra features. Write for catalog.

Midwestern Mfg. Co. Mackinaw Illinois

Frank C. Vernotzy Chief at Akron, Ohio

Assistant Chief Frank C. Vernotzy was recently named Chief of the Akron, Ohio, Fire Department by Mayor George J. Harter after a competitive examination.

Chief Frank C. Vernotzy

The appointment of Chief Vernotzy marks a fitting climax of a successful fire fighting career which began with his appointment to the Akron Fire Department on September 4, 1909. He was promoted to lieutenant on June 9, 1914; to captain on January 22, 1920; to second assistant chief on May 1, 1930, and to first assistant chief on December 1, 1930. His promotions have all been acquired as a result of competitive examination.

His ability as a fireman and an officer has always been recognized by the men under his command. He has given freely of his time and energy toward the advancement of the firemanic movement, acting as co-sponsor and leader of regional fire schools conducted throughout the State of Ohio for several years.

In the brief period of time that Chief Vernotzy has been head of the Fire Division, he has accomplished much toward the betterment of the Department, having been instrumental in acquiring four new pieces of heavy equipment from the Federal Government, under Lend Lease.

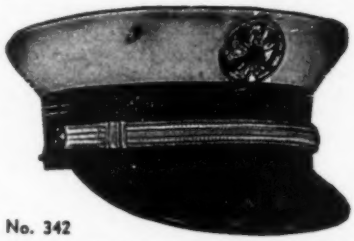
The vacancy created by the advancement of Chief Vernotzy was filled by the promotion of Captain J. F. Pansler to that of assistant chief. Chief Pansler became a member of the Akron Fire Department during World War I, August 27, 1918. His advancement has likewise been by the competitive examination route.

Municipal Wages May Be Adjusted Without WLB Approval

State, county and municipal governments may adjust wages and salaries under certain circumstances without prior approval by the National War Labor Board or the Commissioner of Internal Revenue, the two agencies announced recently in a joint statement.

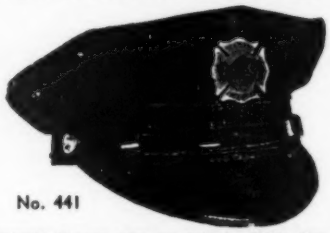
Adjustments of wages or salaries requiring approval will be deemed approved if the head of the state or local

WENTWORTH
FIREMAN'S UNIFORM CAPS
UNION MADE PROMPT DELIVERY



No. 342

Wentworth Fireman Caps are made of the Highest Quality Standard Materials available by the Best Skilled Union Craftsmen. Our 46 years of experience and skilled workmen guarantee you AMERICA'S GREATEST CAP VALUE in all WENTWORTH FIREMAN CAPS.



No. 441

Wentworth Fireman Caps are made in all the New and Standard styles. Ball Top, 8-Point, Military, etc. Write direct for latest circular and prices or see your local dealer.

WENTWORTH-FORMAN CO., INC.
578b Washington St., Boston, Mass.
Manufacturers
Fireman Cap Specialists for Over 45 Years

MARKETPLACE OF THE FIRE SERVICE

When you are in the market for fire-fighting equipment, first look through the advertising pages of FIRE ENGINEERING — your most reliable guide. If the products you are seeking are not advertised—then write to our Readers' Service Department.

FIRE ENGINEERING
24 W. 40th ST., N. Y. C.

HARRINGTON

FIRE ALARM SYSTEMS

Recognized as standard in their high quality and dependability of service since 1921. The cover of the 6" gong illustrated can be removed for inspection without disturbing the mechanism. These gongs are strongly built and light in weight.

★

HARRINGTON SIGNAL CO.

Moline Illinois

THE "ALL-OUT" FIRE EXTINGUISHER

A modern weapon for defense against TODAY'S fire hazard

★

Fires too large for ordinary extinguishers are a simple problem for "ALL-OUT."

No need to stand close to hot fires, "ALL-OUT" has a long range.

"ALL-OUT" Dry Chemical also protects the operator from heat by forming a blanket.

Not necessary to select a particular type extinguisher for each risk. "ALL-OUT" can handle practically all types of fires.

"ALL-OUT" is the Extinguisher that everyone is talking about.

"ALL-OUT" is now in service from the Atlantic to the Pacific.

When manufacturers have a bad risk they purchase "ALL-OUT."

We would be glad to demonstrate

★ **IMMEDIATE DELIVERY** ★

NATIONAL POWDER EXTINGUISHER CORPORATION

880 BERGEN AVE. JERSEY CITY, N. J.

agency certifies to the Board or the Commissioner "that such adjustment is necessary to correct maladjustments or to correct inequalities or gross inequities as contemplated by Executive Order No. 9250." The certificate must describe briefly the nature and amount of the adjustment and other necessary facts and may be accepted by the Board or the Commissioner, as the case may be, as satisfactory evidence of the facts and of the propriety of the adjustment.

"The certification procedure," the statement read, "will not apply to any adjustment which would raise salaries or wages beyond the prevailing level of compensation for similar services in the area or the community. In exceptional cases where such an adjustment is sought, and in all cases where the agency seeks an adjustment other than by the certification procedure, application for approval should be filed with the appropriate regional officer of the National War Labor Board or of the Commissioner of Internal Revenue, as the case may be."

Under the regulations issued by the Economic Stabilization Director on October 27, the Board and the Commissioner have jurisdiction over any salary or wages paid by any state or political subdivision thereof or any agency or instrumentality of any one or more of the foregoing, except where the amount of such salary or wages is fixed by statute. The term statute is applied to non-federal employees and is limited to an act of a state legislature.

The Board has jurisdiction over all wage adjustments and over salaries up to and including $5,000, except where the salary is paid to an executive, administrative or professional employee not represented by a recognized labor union. The Commissioner has jurisdiction over all other salaries.

Four copies of each certificate, prescribed in the new procedure, should be filed with the Joint Committee on Salaries and Wages, Room 5406, Department of Labor Building, Washington, D. C., which will forward them to the Board or the Commissioner, as the case may be.

San Francisco Auxiliary Engine Companies

San Francisco now has twenty-five auxiliary engine companies in service, all of them with 500 g.p.m. skid pumps mounted on them and with complete miscellaneous equipment.

The city is also receiving delivery on trailer pumps, also of the 500 g.p.m. variety. When the delivery of all types of pumps contracted for has been completed, there will be 262 auxiliary pumpers in service and 336 trailers.

However, at the present time, the trailer pumps are standing in the yard at the fire department's drill school, without tires. Local officials hope that the coming of gas rationing with the accompanying turning in of tires will provide enough to get the trailer pumps in rolling order.

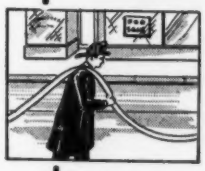
So many auxiliary firemen have been inducted into the armed forces or have gone to work in the shipyards that Civilian Defense Director Jack Helms has made a plea for several thousand more auxiliary firemen to sign up.

BOB GREENOCK.

CONSERVATION FACTS on how to save your hose

Fact No. 3

NEVER DRAG YOUR HOSE — CARRY IT!



Never drag your hose, either in the street or inside of the building. Rough pavements or cement walks, will weaken or break the outside jacket. This will result in "Burst Lines" when pressure inside of hose hits these weak spots.

More than 27 million people in hundreds of towns and cities throughout America are protected by Goodall Fire Hose. Miles of Goodall hose helped England fight the Nazi air blitz. Hundreds of miles of Goodall hose are now being made for our Civilian Defense.

We are looking for some live-wire distributors in certain territories. Write to our main office givng a full description of your set-up.

Write for Catalog Folder

GOODALL
RUBBER COMPANY INCORPORATED

6 SOUTH 36TH STREET, PHILADELPHIA
Branch Stocks in Key Cities Across the Country

Precision Engineering—

Modern, dependable fire-fighting apparatus is needed to conduct and combat modern warfare. Ward LaFrance equipment is precision engineered to assure speed with safety, and long, economical service. Write today for complete information.

WARD LaFRANCE TRUCK CORP.

ELMIRA HEIGHTS NEW YORK

"Fire Apparatus of Quality"

NEW YORK BRANCH
139th St. and Southern Blvd.
New York City

MANHATTAN
FIRE HOSE

FLAT FOLDING
—easier to handle
PRESSURE TESTED
—every length tested
under *high pressure*

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Also made
RADIO-ACTIVE
TREATED
Mildew-Proof • Rot-Proof
Freeze-Proof
Look for the green color

KEEP AHEAD WITH MANHATTAN

THE MANHATTAN RUBBER MFG. DIVISION
of Raybestos-Manhattan, Inc.
Executive Offices and Factories Passaic, N. J.

Firemen Needed in Portsmouth, N. H., Navy Yard

Qualified fire fighters are very urgently needed for immediate duty at the Portsmouth Navy Yard. Fire fighters are paid at the rate of $1,680 per annum, plus time and one-half for overtime. The Yard is working on a basis of a forty-eight hour week; hence, time and a half is paid for time over forty hours. The maximum age limit is 53; the minimum is 20. It is suggested that qualified applicants file application Form 60, which may be procured at any U. S. Employment Service, Post Office, or at the Labor Board, Portsmouth Navy Yard. If you are not engaged in war work of equal skill, apply immediately for fire fighter duty at the Portsmouth Navy Yard, Portsmouth, N. H.

Officers of Connecticut Firemen's Association

The Connecticut State Firemen's Association, under the direction of Harold J. Lieberman of Norwich, newly elected president, have organized committees and are now carrying out the regular business of the Association. The Executive Committee held their first meeting, a joint affair with the Legislative Committee, on October 8th at the Hotel Garde in Hartford and on October 20th the Legislative Committee held another meeting at Hartford. Officers for the year and committees appointed are as follows:

President, Harold J. Lieberman, Norwich; Vice-President, William A. Degnan, Derby; Chaplain, Rev. M. J. Thompson, Niantic; Secretary, John Moehring, Stamford; Treasurer, Thomas C. Bracken, Branford.

Executive Committee: Harry Morse, Litchfield; Maurice Scanlon, Naugatuck; Armand J. Plouffe, Montville; William Anthony, Stratford; William Conrady, Rockville; James Glasheen, Portland; George Winterburn, Putnam; Royal Holmes, East Berlin. George Brencher, Darien, Past President.

Legislative Committee, Thomas Martin, New London, chairman; Jerry Donovan, Hartford; George McCarthy, Westfield; Edward Turbet, New Haven; William Silk, Stafford Springs; J. J. Doherty, Winsted; Vincent Benham, Bridgeport; Michael J. English, Willimantic.

Auditing Committee, Robert Probst, West Hartford, chairman; William Clasby, Waterbury, Eugene Milligan, New Haven.

Resolutions Committee, Chief Joseph Tracy, Norwich, chairman; Jeremiah Dunn, New Haven, Miles Nelleton, Milford.

JOHN MOEHRING.

Lynch Chief at Newark, N. J.

Deputy Chief George F. Lynch was appointed Fire Chief by the City Commission of Newark, N. J.

Chief Lynch joined the Newark Fire Department in 1900 and has come up through the ranks, finishing first in every promotional examination he has taken. He was named deputy chief in 1925.

He succeeds Chief Peter Kiernan, who retired to supervise fire protection in three Army cantonments.

THE *New* WHEAT
Rechargeable Spotlight

MODEL 158

2500 FOOT BEAM
25000 CANDLE POWER
1000 HOURS OPERATION

Critical Materials Reduced to a Minimum to insure Availability

FEATURES
★ Positive "non-spill" Construction
★ Less expensive Operation than dry cells
★ Free use of Hands. Light carries conveniently on Shoulder Strap
★ Weighs only 92 ozs. complete
★ Simple to Charge and Water No need to take Lamp apart
★ Light can be Focused and Directed as Desired

WRITE FOR COMPLETE DETAILS
KOEHLER MANUFACTURING COMPANY, INC.
MARLBORO, MASSACHUSETTS, U.S.A.

JANESVILLE QUALITY FIRE COATS

Our coats are giving excellent satisfaction in most of the large fire departments throughout the U. S. and
THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY
Rubber and Duck Coats and Bunkers, Boots, etc.
We also manufacture White Striped Safety Coats.
JANESVILLE APPAREL CO.
JANESVILLE, WIS.

JAMES J. DEASY
Battalion Chief (retired), New York Fire Department
Former Chief Instructor, New York State Firemen Training Program
Instructor, Delehanty Institute (of Civil Service), New York, N. Y.

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Consultant on:
Volunteer Fire Department organization and training
Industrial Plant Fire Protection organization and training of Industrial Plant fire brigades

Specialist in
Wartime fire protection and fire prevention

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Let us solve your fire protection problems for you.

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Greenville, Green County, N. Y.

One of 70

TYPE WS
MASTER
★
LIGHTS

EMERGENCY LIGHTS
for
FIRE CHIEFS

Notice the perfect balance with beam turned up or down. Use rechargeable batteries now.

A MASTER-LIGHT
FOR EVERY NEED

CARPENTER MFG. CO.
"Master ★ Light ★ Makers"
200 Sidney St.
Cambridge, Mass.

Baltimore Fire Fighters Kept Busy

The Baltimore, Md., fire fighters have had their share of work recently. In two weeks the city firemen attended eleven multiple alarm fires, with a total of twenty-nine other alarms spread among them. Six of the calls were from a paper box factory, six on a boat, a rag-shop and in a woodworking shop. The seven two-alarmers were in another boat full of sisal, a cotton warehouse and several dwellings. Western Auto Supply Company had one in the warehouse holding the salvage from their $1,000,000 fire of last July.

The county firemen had a busy Hallowe'en, with children touching off porch furniture and a roadside stand. A fire in Dundalk seriously injured four firemen, hurt forty more, killed one and cleaned out a block of frame stores. The loss was $30,000 and the fire was handled by three companies of county firemen.

The Baltimore Auxiliary Fire Brigade is growing. There are now 500 trained auxiliary firemen, with 300 now in training. Each man must stand duty two hours a week on his assigned night, but he may come in for additional duty at any time. One man put in over sixty hours in three weeks. An auxiliary fireman is permitted to stand house watch, answer the telephone and plug companies on the "running board" that is maintained in each house. No more than four auxiliary firemen may ride at one time. The OCD hose has arrived. The auxiliaries have started a paper.

TIMOTHY G. STILLMAN.

CANVEX
TRADE MARK

Have Your Firecoats Lost Their Water Repellancy?

Check your firecoats now! If they do not shed water apply CANVEX — a clear solution that was primarily developed to treat Firehose and Salvage Covers to prevent mildew and to waterproof the fabric of the hose.

Ask your regular distributor or write to

SOILICIDE LABORATORIES
MONTCLAIR, N.J.

Twenty-six Years of Service

George F. Dansbury, Chief of the Grosse Pointe Farms, Mich., Fire Department, has completed thirty-six years of service as a fireman, nineteen of these as Chief.

Back in 1906 he was appointed call boy in Harrison, N. J., Fire Department. He was then promoted to active membership in the Harrison Department in 1908, and he served with them until early in 1916. He then came to Detroit and in August, 1916, entered the service of the Grosse Pointe Farms Fire Department.

Chief Dansbury is affiliated with the International Association of Fire Chiefs and the Great Lakes Association of Fire Chiefs. He is a member of the Michigan Firemen's Association, the National Fire Protection Association and has been Secretary of the Michigan State Fire Chiefs for the past sixteen years. He is also a member of the New Jersey State Firemen's Association and Exempt Association.

Instructors' Conference To Be Held

The Fifteenth Annual Fire Department Instructors Conference will be held at Memphis, Tenn., commencing Tuesday, January 5, 1943, and continuing through January 8, at Fire Department Headquarters, under sponsorship of the Western Actuarial Bureau and the Memphis Fire Department.

J. Burr Taylor, P. O. Box 1089, Chicago, Ill., is Conference Secretary, and registration for the training conference will be handled by him.

WHEN YOU BUY
from
BOYER
You Get the best for less!
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Headquarters for
FIRE APPARATUS and FIRE DEPARTMENT SUPPLIES
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BOYER FIRE APPARATUS CO.
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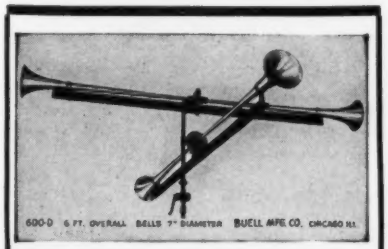


BUELL AIR RAID WARNING SIGNALS

BUELL Air Raid Warning Signals use the most simple and effective sound-producing principle known today, a patented BUELL feature. They transfer air energy directly into sound, giving a powerful, dependable warning of high attention-getting value. 50 units of the 600-D type shown above have been installed in Portland, Oregon . . . 10 suburbs of Chicago have installed this unit.

Buell Air Pressure Warning Signals can be used for alarms and special purpose signaling in industrial plants, ship yards, etc. Ideal for coding to call volunteer fire departments.

Write or wire for descriptive literature, NOW!

BUELL MFG. CO.
2995 Cottage Grove Ave., Chicago

YES—LIFE NETS

are an important part of our defense plan!

Life saving equipment cannot be neglected. Since your department is cooperating in the protection of industry, you must be ready to protect the lives of the people who are working in industry. Whether fires break out from natural or foreign causes, these workers must be assured of adequate "Life Saving Protection."

ATLAS LIFE NETS are ready when called upon and can perform their task. Best—because they are scientifically engineered—and have proven themselves under extreme conditions to be true "LIFE SAVING MACHINES."

ATLAS FIRE EQUIPMENT CO., Inc.

26 Warren St. * New York, N. Y.

SEALAND TRAILER PUMPS

These mobile trailers made in 150, 250 and 500 gallon units are powered with gasoline motors, carry 500 ft. of double jacket Fire hose, and may be equipped with 100 gallon booster tanks. Skid mounted units can be furnished. Pumps can be purchased without trailers.

THE SEALAND CORP.

Centrifugal Pumps - Fire Alarm Systems—Modern Fire Apparatus

Post Road & Maple Ave.,
P. O. Southport, Conn.

Selma Fire Chief Killed at Fire

Fire Chief W. L. Pitts, of Selma, Ala., lost his life along with two others on November 27 while battling a five-hour fire that raged through a building in nearby Uniontown.

The Selma firemen answered a call to augment the fourteen volunteers of the Uniontown Fire Department who were battling the blaze, and Chief Pitts, along with two others, was crushed to death when a wall of the building collapsed.

Six others, including two more Selma firemen, were injured.

Chief Drake Secretary-Treasurer of New York Fire Chiefs' Association

Chief Henry F. Drake of Clinton Corners, N. Y., has been appointed Secretary-Treasurer of the New York State Association of Fire Chiefs to fill the vacancy caused by the death of Chief Chris Noll of Poughkeepsie, N. Y. He will serve in that capacity until the next election.

He was also appointed acting Secretary of the Hudson Valley Volunteer Firemen's Association, to act until the next convention. Chief Noll had served in that capacity for twenty-six years.

Moore Chief at Army Air Base

L. C. Moore, formerly with the Sacramento, Cal., Fire Department, has been appointed Fire Chief at the U. S. Army Air Base at Jacksonville, Fla. Just prior to his appointment, he served as Fire Chief at Camp Blanding, Fla., while the camp was under construction.

Chief Moore started at Camp Blanding with two men. No stations were built and no apparatus was on the ground. When he turned over his duties to the fire chief of the completed camp, there were six large stations and a personnel of eighty-seven firemen. The equipment consisted of eight pieces of apparatus, two 750-gallon pumpers and six 500-gallon triple combination pumpers and six one-half-ton pickup trucks.

Bilby Named Montclair Fire Chief

Assistant Fire Chief Arthur W. Bilby has been named Chief of the Montclair, N. J., Fire Department, succeeding John H. Graham, who retired recently.

Chief Bilby was appointed to the Fire Department on November 1, 1914. He was a fireman for nine years and then was promoted to the rank of lieutenant. Three years later he was promoted to the rank of captain. He was made assistant chief in July, 1941. For eighteen years Chief Bilby has been in charge of the department's training school.

Chief Mauldin Dead

Chief Albert S. Mauldin of the Anderson, S. C., Fire Department, died suddenly on November 22nd.

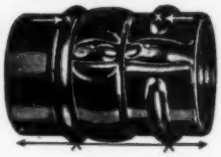
The Chief attended a football game in Columbia, S. C., on November 20th, and fell from the highest back seat of the grandstand to the ground and was fatally injured.

DOUBLE SERVICE *with* BI-LATERAL

This installation shows the position of the rubber lining in BI-LATERAL FIRE HOSE when held in a flattened position between calls into service. This is why we can save a city one replacement, because this hose will give double service of any hose constructed under the old method.

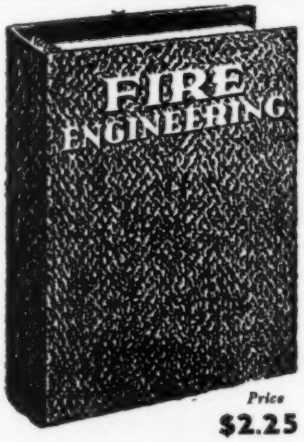
Also we can load 25% more on the apparatus bed actually making an $8,000 truck loaded with Bi-Lateral construction, cheaper than a $7,000 one loaded with other construction.

Here's the new DROP-FORGED rocker lug coupling (not cast bronze) with the swivel protecting feature.



BI-LATERAL FIRE HOSE CO.

20 No. Wacker Drive Chicago, Ill.



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This binder holds 24 issues and the yearly indexes—every article for two years is immediately available.

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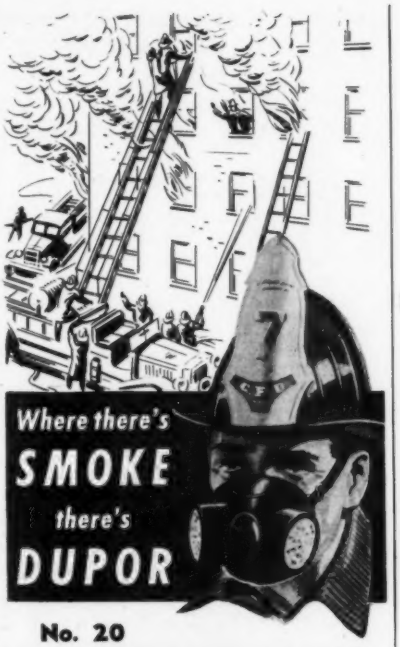


No. 20

TWIN SPONGE SMOKE MASKS

Double protection for "smoke-eaters." Double sponges filled with water provide cool, smoke-free breathing. Soft rubber mask gives air-tight fit!

***SAMPLE* sent for $2.25**

H. S. COVER, 68 Chippewa St., South Bend, Ind.

A BADGE

to be proud of

NOW

more than ever!

BEFORE!

Now — because of the government's prohibition of the use of nickel, brass, copper, nickel plating, and chromium — we are making these badges and insignia in sterling silver, sterling silver gold plated, rolled gold on sterling silver and 14 karat gold.

Today — for just a little more, you get a sterling silver Braxmar Badge — without doubt the best badge you can buy anywhere.

The blue covered catalog is the latest published but write for our new price list. Only prices in the catalog on 14 karat gold items are still in effect. All auto plates are discontinued for the duration.

C. G. Braxmar Co., 242 W. 55th St., N. Y.

BRAXMAR BADGES

Standard for over 60 years

The Round Table

(*Continued from page 750*)

the lost man hours through accidents, all of which is of vital importance. However, it is my opinion that more judgment should be shown in the type of men hired as plant watchmen. Men on crutches and in wheel chairs serve no useful purpose as watchmen. They are largely on their own and need essential qualifications of initiative, agility, coolness in an emergency, etc.

Edward F. Dahill, Chief, New Bedford, Mass.: Industrial plant watchmen are given a course in fire protection and allied subjects by the Fire Department Drill Master and the various officers of the Department.

They are taught the operation of fire alarm and sprinkler systems, together with the necessity of sending in alarms quickly; fire fighting evolutions including a thorough knowledge of plant buildings and fire equipment; salvage equipment; extinguishing of incendiary bombs and fires; classification and detection of war gases; use of gas masks and other related subjects.

Our officers have by practice and lectures at various plants and at drills held in various fire stations, given instruction to over 150 watchmen and over 800 plant employees.

I believe such a course of instruction will provide added fire protection in the industrial plants of our city and will also be valuable asset to our fire department.

John J. Horgan, Chief Clerk, Worcester, Mass.: Industrial plant watchmen are given a course in plant fire protection and related subjects.

The Fire Department in conjunction with the State Department of Education and the insurance companies conduct the courses.

The course was designed to cover all phases of plant protection with a focal point of fire prevention. Briefly these are the subjects covered: plant fire protection, auxiliary fire alarm systems, sprinkler and other fire prevention systems, maintenance of fire fighting equipment, location of the various fire fighting equipment, physical characteristics of specified types of plants, disposition of manpower in emergencies, foremen or other responsible persons to be in charge and their duties.

The industries were slow in accepting and starting the course but as soon as its advantages were pointed out to them, they were most eager to cooperate and lend every effort.

From a practical viewpoint this course has two advantages: it gives a great many more people an insight into the work the fire departments are trying to accomplish and fire consciousness is instilled into many men whom we never have been able to reach. They carry the thoughts on fire prevention not only into their plants but also into their homes and among their friends.

C. L. Ingram, Chief, Montgomery, Ala.: The question of giving a course in fire protection training for industrial watchmen has been up several times, but no action has ever been taken.

I believe it would be both wise and beneficial. Certainly it would tend for more fire prevention.

. . . *BUT*

IN PERFORMANCE NO "MIDGET"

Buffalo

TRAILER PUMPER

This compact, easy-to-transport fire fighting unit is a dependable pumper in every sense of the word. With a capacity of 600 gallons per minute, the Buffalo Trailer-Pumper is ruggedly built for sustained pumping service. Equipped with 6-cylinder engine, efficient pump, compartments for 400 feet of 2½ inch hose. The ideal auxiliary equpment to reinforce standard fire apparatus. Skid mounted pumping units of same capacity also available. Details on request.

BUFFALO FIRE APPLIANCE CORP.
52 Central Avenue Buffalo, N. Y.

QUAKER

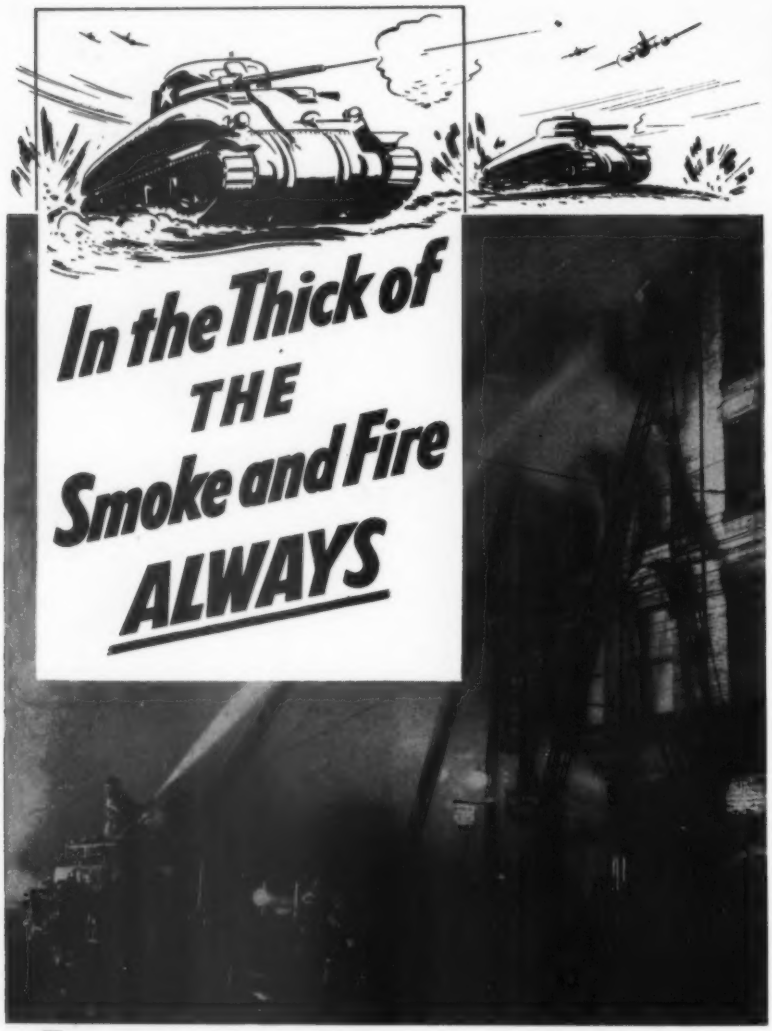
FIRE HOSE

CHEMICAL • FORESTRY • SUCTION HOSE

QUAKER QUALITY SINCE 1885

QUAKER RUBBER CORPORATION
Main Office & Factory: PHILADELPHIA
NEW YORK • CHICAGO • HOUSTON

Western Territory
QUAKER PACIFIC RUBBER COMPANY
SAN FRANCISCO • LOS ANGELES



IT'S an old, common sight to see Homelite Portable Generators at night fires—producing the brilliant flood-lighting that firemen need to work with speed and safety. Now, with the whole world ablaze, Homelites are right in the thick of it. In bombers, in tanks, and with the Signal Corps, Homelites are doing important work and doing it well. And it is our job—here at the Homelite Plant—to see to it that the armed forces get all the Homelites they need *on time*, even though we must pass by orders from our good and normal customers.

ARMY E NAVY

The quality and quantity of Homelite production have passed the greatest test of all. Over the Homelite plant flies the Army-Navy "E"—awarded to Homelite workers for their untiring efforts towards winning the war.

HOMELITE CORPORATION

PORT CHESTER, NEW YORK

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FIRE ENGINEERING

DECEMBER, 1942

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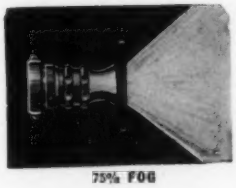
COOPERATION

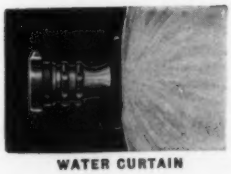
SEASON'S GREETINGS
for a
Merry Christmas
and a
Happy New Year

ELKHART'S
MYSTERY
FOG NOZZLE

SOLID STREAM



75% FOG



WATER CURTAIN

THIS holiday season gives us once more an opportunity to extend our best wishes and warmest greetings to our many friends in the fire service.

The past twelve months have been the most trying ones in our country's history but the future holds every promise of better times ahead.

Although we have not been able to fill all your orders as quickly or as entirely as we may have wished to, we are pleased that we are still able to supply much of the equipment that is so vital to your important job. You may be sure of our continued cooperation in handling your orders as promptly and efficiently as the war effort will allow us. In this spirit, may we all go forward in 1943 with a determination to make it not only a prosperous one but one of great accomplishment.

ELK HART IND

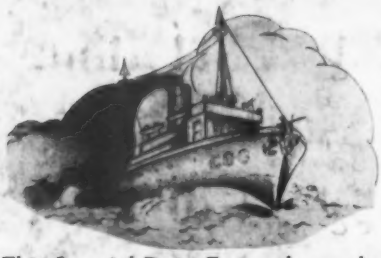
Manufacturers of Quality Fire Dept. Brass Goods Since 1902

ELKHART BRASS MFG. COMPANY

• **ELKHART, INDIANA** •

And Now . . . . .

THE SPECIAL DUTY FOGNOZL



For . . . . . .

SHIPS at SEA

WATER SCIENTIFICALLY CONTROLS GASOLINE FIRE WITH COMPLETE PROTECTION TO PERSONNEL

This Special Duty Fognozl was designed particularly for ship use at pressures ranging around 100 lbs. p. s. i. Consideration was given to

- ★ Personnel Protection (particularly inside ships)
- ★ Gasoline or oil fires (in holds and bilges)
- ★ Fires in engine rooms

For this reason this 1½" 4AN Fognozl is equipped to produce a low velocity Waterfog and a high velocity Waterfog, as well as a standard ⅝" straight stream, along with both types of fog. The 4AN is built with the famous floating-gland type of shut-off valve.

LOW VELOCITY WATERFOG

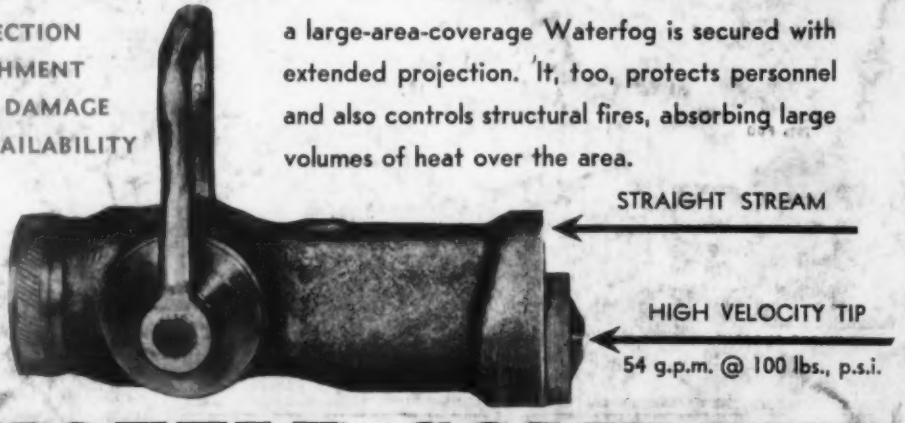
4 ft. or 10 ft. Applicators

BY REMOVING THE APPLICATOR (BAYONET-LIKE) AND INSERTING A

HIGH VELOCITY WATERFOG TIP

- PERSONNEL PROTECTION
- RAPID EXTINGUISHMENT
- REDUCED WATER DAMAGE
- ECONOMY and AVAILABILITY

a large-area-coverage Waterfog is secured with extended projection. It, too, protects personnel and also controls structural fires, absorbing large volumes of heat over the area.



Write for detailed specifications.

FOG NOZZLE COMPANY

1520 EAST SLAUSON AVENUE ★ LOS ANGELES, CALIF.

FOG NOZZLE OF CANADA LTD., MONTREAL, CANADA